new

Name of function	FRAM Function
Description	A generic FRAM function with five inputs
Aspect	**Description of Aspect**
Input	
Output	
Precondition	
Resource	
Control	
Time	

Data Table generated for the IVF function in natural language

CPC1	CPC2	CPC3	CPC4	CPC5	CPC6	CPC7	CPC8	IVF
inadequate	inadequate	inadequate	inadequate	inadequate	inadequate	inadequate	inadequate	highly variable
inadequate	inadequate	inadequate	inadequate	inadequate	inadequate	inadequate	adequate	highly variable
inadequate	inadequate	inadequate	inadequate	inadequate	inadequate	adequate	inadequate	highly variable
inadequate	inadequate	inadequate	inadequate	inadequate	inadequate	adequate	adequate	highly variable
inadequate	inadequate	inadequate	inadequate	inadequate	adequate	inadequate	inadequate	highly variable
inadequate	inadequate	inadequate	inadequate	inadequate	adequate	inadequate	adequate	highly variable
inadequate	inadequate	inadequate	inadequate	inadequate	adequate	adequate	inadequate	highly variable
inadequate	inadequate	inadequate	inadequate	inadequate	adequate	adequate	adequate	highly variable
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inadequate	inadequate	inadequate	inadequate	adequate	inadequate	adequate	adequate	highly variable
inadequate	inadequate	inadequate	inadequate	adequate	adequate	inadequate	inadequate	highly variable
inadequate	inadequate	inadequate	inadequate	adequate	adequate	inadequate	adequate	highly variable
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adequate	adequate	adequate	adequate	inadequate	adequate	inadequate	adequate	non-variable
adequate	adequate	adequate	adequate	inadequate	adequate	adequate	inadequate	non-variable
adequate	adequate	adequate	adequate	inadequate	adequate	adequate	adequate	non-variable
adequate	adequate	adequate	adequate	adequate	inadequate	inadequate	inadequate	variable
adequate	adequate	adequate	adequate	adequate	inadequate	inadequate	adequate	non-variable
adequate	adequate	adequate	adequate	adequate	inadequate	adequate	inadequate	non-variable
adequate	adequate	adequate	adequate	adequate	inadequate	adequate	adequate	non-variable
adequate	adequate	adequate	adequate	adequate	adequate	inadequate	inadequate	non-variable
adequate	adequate	adequate	adequate	adequate	adequate	inadequate	adequate	non-variable
adequate	adequate	adequate	adequate	adequate	adequate	adequate	inadequate	non-variable
adequate	adequate	adequate	adequate	adequate	adequate	adequate	adequate	non-variable

MATLAB Code for the IVF functions (reduced with rough sets):

```
[System]
Name='IVF'
Type='mamdani'
Version=2.0
NumInputs=8
NumOutputs=1
NumRules=154
AndMethod='min'
OrMethod='max'
ImpMethod='min'
AggMethod='max'
DefuzzMethod='centroid'

[Input1]
Name='Availability.of.recources'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
MF2='Adequate':'trimf',[0 10 10]

[Input2]
Name='Number.of.goals.and.conflict.resolution'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
MF2='Adequate':'trimf',[0 10 10]

[Input3]
Name='Quality.of.communication'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
MF2='Adequate':'trimf',[0 10 10]

[Input4]
Name='Availability.of.procedures.and.plans'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
MF2='Adequate':'trimf',[0 10 10]

[Input5]
Name='Training.and.competence'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
MF2='Adequate':'trimf',[0 10 10]

[Input6]
Name='Available.time.and.time.pressure'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
```

```
MF2='Adequate':'trimf',[0 10 10]

[Input7]
Name='Circadian.rhythm.and.stress'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
MF2='Adequate':'trimf',[0 10 10]

[Input8]
Name='Team.collaboration.quality'
Range=[0 10]
NumMFs=2
MF1='Inadequate':'trimf',[0 0 10]
MF2='Adequate':'trimf',[0 10 10]

[Output1]
Name='IVF'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Rules]
1 0 0 1 1 1 0 0, 1 (1) : 1
0 1 0 0 1 1 1 0, 1 (1) : 1
1 0 1 0 1 1 0 0, 1 (1) : 1
0 0 1 1 0 1 1 0, 1 (1) : 1
1 0 1 1 0 1 0 0, 1 (1) : 1
1 0 1 0 0 1 1 0, 1 (1) : 1
0 0 1 1 1 0 1 0, 1 (1) : 1
0 1 0 1 0 1 1 0, 1 (1) : 1
0 1 1 1 0 0 1 0, 1 (1) : 1
0 1 0 1 1 0 1 0, 1 (1) : 1
0 1 0 1 1 1 0 0, 1 (1) : 1
1 0 0 1 1 0 1 0, 1 (1) : 1
1 0 1 1 0 0 1 0, 1 (1) : 1
0 0 1 1 1 1 0 0, 1 (1) : 1
1 1 0 0 0 1 1 0, 1 (1) : 1
1 0 1 0 1 0 1 0, 1 (1) : 1
1 1 0 1 0 0 1 0, 1 (1) : 1
0 1 1 0 1 1 0 0, 1 (1) : 1
1 1 0 0 1 1 0 0, 1 (1) : 1
1 1 1 0 0 1 0 0, 1 (1) : 1
0 1 1 0 0 1 1 0, 1 (1) : 1
1 1 0 1 0 1 0 0, 1 (1) : 1
1 1 1 0 0 0 1 0, 1 (1) : 1
0 1 1 1 1 0 0 0, 1 (1) : 1
0 0 0 1 1 1 1 0, 1 (1) : 1
1 1 0 1 1 0 0 0, 1 (1) : 1
1 1 1 0 1 0 0 0, 1 (1) : 1
1 0 1 1 1 0 0 0, 1 (1) : 1
1 1 0 0 1 0 1 0, 1 (1) : 1
1 0 0 1 0 1 1 0, 1 (1) : 1
0 1 1 0 1 0 1 0, 1 (1) : 1
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0 1 1 1 0 1 0 0, 1 (1) : 1
1 0 0 0 1 1 1 0, 1 (1) : 1
1 1 1 1 0 0 0 0, 1 (1) : 1
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0 1 1 1 0 0 0 1, 1 (1) : 1
1 1 1 0 0 0 0 1, 1 (1) : 1
0 1 0 1 1 0 0 1, 1 (1) : 1
0 0 1 1 1 0 0 1, 1 (1) : 1
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0 1 0 0 1 1 0 1, 1 (1) : 1
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1 0 0 0 1 1 0 1, 1 (1) : 1
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0 0 1 0 1 1 0 1, 1 (1) : 1
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0 1 1 0 0 1 0 1, 1 (1) : 1
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0 1 1 0 0 0 1 1, 1 (1) : 1
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1 1 2 1 2 2 2 2, 2 (1) : 1
1 1 2 2 1 2 2 2, 2 (1) : 1
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1 2 2 1 2 2 1 2, 2 (1) : 1
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1 2 2 2 1 1 2 2, 2 (1) : 1
1 2 2 2 1 2 1 2, 2 (1) : 1
1 2 2 2 1 2 2 1, 2 (1) : 1

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1 2 2 2 2 1 2 1, 2 (1) : 1
1 2 2 2 2 2 1 1, 2 (1) : 1
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2 1 1 2 1 2 2 2, 2 (1) : 1
2 1 1 2 2 1 2 2, 2 (1) : 1
2 1 1 2 2 2 1 2, 2 (1) : 1
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2 1 2 1 2 1 2 2, 2 (1) : 1
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2 2 1 2 2 2 1 1, 2 (1) : 1
2 2 2 1 1 1 2 2, 2 (1) : 1
2 2 2 1 1 2 1 2, 2 (1) : 1
2 2 2 1 1 2 2 1, 2 (1) : 1
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2 2 2 2 1 1 2 1, 2 (1) : 1
2 2 2 2 1 2 1 1, 2 (1) : 1
2 2 2 2 2 1 1 1, 2 (1) : 1
0 0 2 2 2 2 2 2, 3 (1) : 1
0 2 0 2 2 2 2 2, 3 (1) : 1
0 2 2 0 2 2 2 2, 3 (1) : 1
0 2 2 2 0 2 2 2, 3 (1) : 1
0 2 2 2 2 0 2 2, 3 (1) : 1
0 2 2 2 2 2 0 2, 3 (1) : 1
0 2 2 2 2 2 2 0, 3 (1) : 1
2 0 0 2 2 2 2 2, 3 (1) : 1
2 0 2 0 2 2 2 2, 3 (1) : 1
2 0 2 2 0 2 2 2, 3 (1) : 1
2 0 2 2 2 0 2 2, 3 (1) : 1
2 0 2 2 2 2 0 2, 3 (1) : 1
2 0 2 2 2 2 2 0, 3 (1) : 1
2 2 0 0 2 2 2 2, 3 (1) : 1
2 2 0 2 0 2 2 2, 3 (1) : 1
2 2 0 2 2 0 2 2, 3 (1) : 1
2 2 0 2 2 2 0 2, 3 (1) : 1
2 2 0 2 2 2 2 0, 3 (1) : 1
2 2 2 0 0 2 2 2, 3 (1) : 1

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2 2 2 0 2 0 2 2, 3 (1) : 1
2 2 2 0 2 2 0 2, 3 (1) : 1
2 2 2 0 2 2 2 0, 3 (1) : 1
2 2 2 2 0 0 2 2, 3 (1) : 1
2 2 2 2 0 2 0 2, 3 (1) : 1
2 2 2 2 0 2 2 0, 3 (1) : 1
2 2 2 2 2 0 0 2, 3 (1) : 1
2 2 2 2 2 0 2 0, 3 (1) : 1
2 2 2 2 2 2 0 0, 3 (1) : 1
```

Data Table generated for a generic FRAM function (5 inputs) in natural language

Attribute 1	Attribute 2	Attribute 3	Attribute 4	Attribute 5	Decision
highly variable	highly variable	highly variable	highly variable	highly variable	highly variable
highly variable	highly variable	highly variable	highly variable	variable	highly variable
highly variable	highly variable	highly variable	highly variable	non-variable	highly variable
highly variable	highly variable	highly variable	variable	highly variable	highly variable
highly variable	highly variable	highly variable	variable	variable	highly variable
highly variable	highly variable	highly variable	variable	non-variable	highly variable
highly variable	highly variable	highly variable	non-variable	highly variable	highly variable
highly variable	highly variable	highly variable	non-variable	variable	highly variable
highly variable	highly variable	highly variable	non-variable	non-variable	highly variable
highly variable	highly variable	variable	highly variable	highly variable	highly variable
highly variable	highly variable	variable	highly variable	variable	highly variable
highly variable	highly variable	variable	highly variable	non-variable	highly variable
highly variable	highly variable	variable	variable	highly variable	highly variable
highly variable	highly variable	variable	variable	variable	highly variable
highly variable	highly variable	variable	variable	non-variable	highly variable
highly variable	highly variable	variable	non-variable	highly variable	highly variable
highly variable	highly variable	variable	non-variable	variable	highly variable
highly variable	highly variable	variable	non-variable	non-variable	highly variable
highly variable	highly variable	non-variable	highly variable	highly variable	highly variable
highly variable	highly variable	non-variable	highly variable	variable	highly variable
highly variable	highly variable	non-variable	highly variable	non-variable	highly variable
highly variable	highly variable	non-variable	variable	highly variable	highly variable
highly variable	highly variable	non-variable	variable	variable	highly variable
highly variable	highly variable	non-variable	non-variable	highly variable	highly variable
highly variable	highly variable	non-variable	non-variable	variable	highly variable
highly variable	highly variable	non-variable	non-variable	non-variable	highly variable
highly variable	variable	highly variable	highly variable	highly variable	highly variable
highly variable	variable	highly variable	highly variable	variable	highly variable
highly variable	variable	highly variable	highly variable	non-variable	highly variable
highly variable	variable	highly variable	variable	highly variable	highly variable
highly variable	variable	highly variable	variable	variable	highly variable
highly variable	variable	highly variable	variable	non-variable	highly variable
highly variable	variable	highly variable	non-variable	highly variable	highly variable
highly variable	variable	highly variable	non-variable	variable	highly variable
highly variable	variable	highly variable	non-variable	non-variable	highly variable
highly variable	variable	variable	highly variable	highly variable	highly variable
highly variable	variable	variable	highly variable	variable	highly variable
highly variable	variable	variable	highly variable	non-variable	highly variable
highly variable	variable	variable	variable	highly variable	highly variable
highly variable	variable	variable	variable	variable	highly variable
highly variable	variable	variable	variable	non-variable	highly variable
highly variable	variable	variable	non-variable	highly variable	highly variable
highly variable	variable	variable	non-variable	variable	highly variable
highly variable	variable	variable	non-variable	non-variable	highly variable
highly variable	variable	non-variable	highly variable	highly variable	highly variable
highly variable	variable	non-variable	highly variable	variable	highly variable
highly variable	variable	non-variable	highly variable	non-variable	highly variable
highly variable	variable	non-variable	variable	highly variable	highly variable
highly variable	variable	non-variable	variable	variable	highly variable
highly variable	variable	non-variable	variable	non-variable	highly variable
highly variable	non-variable	highly variable	highly variable	highly variable	highly variable
highly variable	non-variable	highly variable	highly variable	variable	highly variable
highly variable	non-variable	highly variable	highly variable	non-variable	highly variable
highly variable	non-variable	highly variable	variable	highly variable	highly variable
highly variable	non-variable	highly variable	variable	variable	highly variable
highly variable	non-variable	highly variable	variable	non-variable	highly variable
highly variable	non-variable	highly variable	non-variable	highly variable	highly variable
highly variable	non-variable	highly variable	non-variable	variable	highly variable
highly variable	non-variable	highly variable	non-variable	non-variable	highly variable
highly variable	non-variable	variable	highly variable	highly variable	highly variable
highly variable	non-variable	variable	highly variable	variable	highly variable
highly variable	non-variable	variable	highly variable	non-variable	highly variable
highly variable	non-variable	variable	variable	highly variable	highly variable
highly variable	non-variable	variable	variable	variable	highly variable
highly variable	non-variable	variable	variable	non-variable	highly variable
highly variable	non-variable	variable	non-variable	highly variable	highly variable
highly variable	non-variable	variable	non-variable	variable	highly variable
highly variable	non-variable	variable	non-variable	non-variable	variable
highly variable	non-variable	non-variable	highly variable	highly variable	highly variable
highly variable	non-variable	non-variable	highly variable	variable	highly variable

highly variable	non-variable	non-variable	highly variable	non-variable	highly variable
highly variable	non-variable	non-variable	variable	highly variable	highly variable
highly variable	non-variable	non-variable	variable	variable	highly variable
highly variable	non-variable	non-variable	variable	non-variable	variable
highly variable	non-variable	non-variable	non-variable	highly variable	highly variable
highly variable	non-variable	non-variable	non-variable	variable	variable
highly variable	non-variable	non-variable	non-variable	non-variable	non-variable
variable	highly variable	highly variable	highly variable	highly variable	highly variable
variable	highly variable	highly variable	highly variable	variable	highly variable
variable	highly variable	highly variable	highly variable	non-variable	highly variable
variable	highly variable	highly variable	variable	highly variable	highly variable
variable	highly variable	highly variable	variable	variable	highly variable
variable	highly variable	highly variable	variable	non-variable	highly variable
variable	highly variable	highly variable	non-variable	highly variable	highly variable
variable	highly variable	highly variable	non-variable	variable	highly variable
variable	highly variable	highly variable	non-variable	non-variable	highly variable
variable	highly variable	variable	highly variable	highly variable	highly variable
variable	highly variable	variable	highly variable	variable	highly variable
variable	highly variable	variable	highly variable	non-variable	highly variable
variable	highly variable	variable	variable	highly variable	highly variable
variable	highly variable	variable	variable	variable	highly variable
variable	highly variable	variable	variable	non-variable	highly variable
variable	highly variable	variable	non-variable	highly variable	highly variable
variable	highly variable	variable	non-variable	variable	highly variable
variable	highly variable	variable	non-variable	non-variable	highly variable
variable	highly variable	non-variable	highly variable	highly variable	highly variable
variable	highly variable	non-variable	highly variable	variable	highly variable
variable	highly variable	non-variable	highly variable	non-variable	highly variable
variable	highly variable	non-variable	variable	highly variable	highly variable
variable	highly variable	non-variable	variable	variable	highly variable
variable	highly variable	non-variable	variable	non-variable	highly variable
variable	highly variable	non-variable	non-variable	highly variable	highly variable
variable	highly variable	non-variable	non-variable	variable	highly variable
variable	highly variable	non-variable	non-variable	non-variable	variable
variable	variable	highly variable	highly variable	highly variable	highly variable
variable	variable	highly variable	highly variable	variable	highly variable
variable	variable	highly variable	highly variable	non-variable	highly variable
variable	variable	highly variable	variable	highly variable	highly variable
variable	variable	highly variable	variable	variable	highly variable
variable	variable	highly variable	variable	non-variable	highly variable
variable	variable	highly variable	non-variable	highly variable	highly variable
variable	variable	highly variable	non-variable	variable	highly variable
variable	variable	highly variable	non-variable	non-variable	highly variable
variable	variable	variable	highly variable	highly variable	highly variable
variable	variable	variable	highly variable	variable	highly variable
variable	variable	variable	highly variable	non-variable	highly variable
variable	variable	variable	variable	highly variable	highly variable
variable	variable	variable	variable	variable	highly variable
variable	variable	variable	variable	non-variable	highly variable
variable	variable	variable	non-variable	highly variable	highly variable
variable	variable	variable	non-variable	variable	highly variable
variable	variable	variable	non-variable	non-variable	variable
variable	variable	non-variable	highly variable	highly variable	highly variable
variable	variable	non-variable	highly variable	variable	highly variable
variable	variable	non-variable	highly variable	non-variable	highly variable
variable	variable	non-variable	variable	highly variable	highly variable
variable	variable	non-variable	variable	variable	highly variable
variable	variable	non-variable	variable	non-variable	variable
variable	variable	non-variable	non-variable	highly variable	highly variable
variable	variable	non-variable	non-variable	variable	variable
variable	variable	non-variable	non-variable	non-variable	non-variable
variable	non-variable	highly variable	highly variable	highly variable	highly variable
variable	non-variable	highly variable	highly variable	variable	highly variable
variable	non-variable	highly variable	highly variable	non-variable	highly variable
variable	non-variable	highly variable	variable	highly variable	highly variable
variable	non-variable	highly variable	variable	variable	highly variable
variable	non-variable	highly variable	variable	non-variable	highly variable
variable	non-variable	highly variable	non-variable	highly variable	highly variable
variable	non-variable	highly variable	non-variable	variable	highly variable
variable	non-variable	highly variable	non-variable	non-variable	variable
variable	non-variable	variable	highly variable	highly variable	highly variable
variable	non-variable	variable	highly variable	variable	highly variable
variable	non-variable	variable	highly variable	non-variable	highly variable
variable	non-variable	variable	variable	highly variable	highly variable
variable	non-variable	variable	variable	variable	highly variable
variable	non-variable	variable	variable	non-variable	variable

variable	non-variable	variable	non-variable	highly variable	highly variable
variable	non-variable	variable	non-variable	variable	variable
variable	non-variable	variable	non-variable	non-variable	non-variable
variable	non-variable	non-variable	highly variable	highly variable	highly variable
variable	non-variable	non-variable	highly variable	variable	highly variable
variable	non-variable	non-variable	highly variable	non-variable	variable
variable	non-variable	non-variable	variable	highly variable	highly variable
variable	non-variable	non-variable	variable	variable	variable
variable	non-variable	non-variable	variable	non-variable	non-variable
variable	non-variable	non-variable	non-variable	highly variable	variable
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variable	non-variable	non-variable	non-variable	non-variable	non-variable
non-variable	highly variable	highly variable	highly variable	highly variable	highly variable
non-variable	highly variable	highly variable	highly variable	variable	highly variable
non-variable	highly variable	highly variable	highly variable	non-variable	highly variable
non-variable	highly variable	highly variable	variable	highly variable	highly variable
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non-variable	highly variable	highly variable	non-variable	variable	highly variable
non-variable	highly variable	highly variable	non-variable	non-variable	highly variable
non-variable	highly variable	variable	highly variable	highly variable	highly variable
non-variable	highly variable	variable	highly variable	variable	highly variable
non-variable	highly variable	variable	highly variable	non-variable	highly variable
non-variable	highly variable	variable	variable	highly variable	highly variable
non-variable	highly variable	variable	non-variable	highly variable	highly variable
non-variable	highly variable	variable	non-variable	variable	highly variable
non-variable	highly variable	variable	non-variable	non-variable	variable
non-variable	highly variable	non-variable	highly variable	highly variable	highly variable
non-variable	highly variable	non-variable	highly variable	variable	highly variable
non-variable	highly variable	non-variable	highly variable	non-variable	highly variable
non-variable	highly variable	non-variable	variable	highly variable	highly variable
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non-variable	highly variable	non-variable	variable	non-variable	variable
non-variable	highly variable	non-variable	non-variable	highly variable	highly variable
non-variable	highly variable	non-variable	non-variable	variable	variable
non-variable	highly variable	non-variable	non-variable	non-variable	non-variable
non-variable	variable	highly variable	highly variable	highly variable	highly variable
non-variable	variable	highly variable	highly variable	variable	highly variable
non-variable	variable	highly variable	highly variable	non-variable	highly variable
non-variable	variable	highly variable	variable	highly variable	highly variable
non-variable	variable	highly variable	variable	variable	highly variable
non-variable	variable	highly variable	variable	non-variable	highly variable
non-variable	variable	highly variable	non-variable	highly variable	highly variable
non-variable	variable	highly variable	non-variable	variable	highly variable
non-variable	variable	highly variable	non-variable	non-variable	variable
non-variable	variable	variable	highly variable	highly variable	highly variable
non-variable	variable	variable	highly variable	variable	highly variable
non-variable	variable	variable	highly variable	non-variable	highly variable
non-variable	variable	variable	variable	highly variable	highly variable
non-variable	variable	variable	variable	variable	highly variable
non-variable	variable	variable	variable	non-variable	variable
non-variable	variable	variable	non-variable	highly variable	highly variable
non-variable	variable	variable	non-variable	variable	variable
non-variable	variable	variable	non-variable	non-variable	non-variable
non-variable	variable	non-variable	highly variable	highly variable	highly variable
non-variable	variable	non-variable	highly variable	variable	highly variable
non-variable	variable	non-variable	highly variable	non-variable	variable
non-variable	variable	non-variable	variable	highly variable	highly variable
non-variable	variable	non-variable	variable	variable	variable
non-variable	variable	non-variable	variable	non-variable	non-variable
non-variable	variable	non-variable	non-variable	highly variable	variable
non-variable	variable	non-variable	non-variable	variable	non-variable
non-variable	variable	non-variable	non-variable	non-variable	non-variable
non-variable	non-variable	highly variable	highly variable	highly variable	highly variable
non-variable	non-variable	highly variable	highly variable	variable	highly variable
non-variable	non-variable	highly variable	highly variable	non-variable	highly variable
non-variable	non-variable	highly variable	variable	highly variable	highly variable
non-variable	non-variable	highly variable	variable	variable	highly variable
non-variable	non-variable	highly variable	variable	non-variable	variable
non-variable	non-variable	highly variable	non-variable	highly variable	highly variable
non-variable	non-variable	highly variable	non-variable	variable	variable
non-variable	non-variable	highly variable	non-variable	non-variable	non-variable
non-variable	non-variable	variable	highly variable	highly variable	highly variable

non-variable	non-variable	variable	highly variable	variable	highly variable
non-variable	non-variable	variable	highly variable	non-variable	variable
non-variable	non-variable	variable	variable	highly variable	highly variable
non-variable	non-variable	variable	variable	variable	variable
non-variable	non-variable	variable	variable	non-variable	non-variable
non-variable	non-variable	variable	non-variable	highly variable	variable
non-variable	non-variable	variable	non-variable	variable	non-variable
non-variable	non-variable	variable	non-variable	non-variable	non-variable
non-variable	non-variable	non-variable	highly variable	highly variable	highly variable
non-variable	non-variable	non-variable	highly variable	variable	variable
non-variable	non-variable	non-variable	highly variable	non-variable	non-variable
non-variable	non-variable	non-variable	variable	highly variable	variable
non-variable	non-variable	non-variable	variable	variable	non-variable
non-variable	non-variable	non-variable	variable	non-variable	non-variable
non-variable	non-variable	non-variable	non-variable	highly variable	non-variable
non-variable	non-variable	non-variable	non-variable	variable	non-variable
non-variable	non-variable	non-variable	non-variable	non-variable	non-variable

MATLAB code for a generic FRAM function with five inputs or aspects and one output (not reduced with rough sets:

```
[System]
Name='A generic FRAM Function - not reduced'
Type='mamdani'
Version=2.0
NumInputs=5
NumOutputs=1
NumRules=243
AndMethod='min'
OrMethod='max'
ImpMethod='min'
AggMethod='max'
DefuzzMethod='centroid'

[Input1]
Name='Input_1'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Input2]
Name='Input_2'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Input3]
Name='Input_3'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Input4]
Name='Input_4'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Input5]
Name='IVF'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
```

```
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Output1]
Name='Output_1'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Rules]
1 1 1 1 1, 1 (1) : 1
1 1 1 1 2, 1 (1) : 1
1 1 1 1 3, 1 (1) : 1
1 1 1 2 1, 1 (1) : 1
1 1 1 2 2, 1 (1) : 1
1 1 1 2 3, 1 (1) : 1
1 1 1 3 1, 1 (1) : 1
1 1 1 3 2, 1 (1) : 1
1 1 1 3 3, 1 (1) : 1
1 1 2 1 1, 1 (1) : 1
1 1 2 1 2, 1 (1) : 1
1 1 2 1 3, 1 (1) : 1
1 1 2 2 1, 1 (1) : 1
1 1 2 2 2, 1 (1) : 1
1 1 2 2 3, 1 (1) : 1
1 1 2 3 1, 1 (1) : 1
1 1 2 3 2, 1 (1) : 1
1 1 2 3 3, 1 (1) : 1
1 1 3 1 1, 1 (1) : 1
1 1 3 1 2, 1 (1) : 1
1 1 3 1 3, 1 (1) : 1
1 1 3 2 1, 1 (1) : 1
1 1 3 2 2, 1 (1) : 1
1 1 3 2 3, 1 (1) : 1
1 1 3 3 1, 1 (1) : 1
1 1 3 3 2, 1 (1) : 1
1 1 3 3 3, 1 (1) : 1
1 2 1 1 1, 1 (1) : 1
1 2 1 1 2, 1 (1) : 1
1 2 1 1 3, 1 (1) : 1
1 2 1 2 1, 1 (1) : 1
1 2 1 2 2, 1 (1) : 1
1 2 1 2 3, 1 (1) : 1
1 2 1 3 1, 1 (1) : 1
1 2 1 3 2, 1 (1) : 1
1 2 1 3 3, 1 (1) : 1
1 2 2 1 1, 1 (1) : 1
1 2 2 1 2, 1 (1) : 1
1 2 2 1 3, 1 (1) : 1
1 2 2 2 1, 1 (1) : 1
1 2 2 2 2, 1 (1) : 1
1 2 2 2 3, 1 (1) : 1
1 2 2 3 1, 1 (1) : 1
1 2 2 3 2, 1 (1) : 1
1 2 2 3 3, 1 (1) : 1
```

```
1 2 3 1 1, 1 (1) : 1
1 2 3 1 2, 1 (1) : 1
1 2 3 1 3, 1 (1) : 1
1 2 3 2 1, 1 (1) : 1
1 2 3 2 2, 1 (1) : 1
1 2 3 2 3, 1 (1) : 1
1 2 3 3 1, 1 (1) : 1
1 2 3 3 2, 1 (1) : 1
1 2 3 3 3, 2 (1) : 1
1 3 1 1 1, 1 (1) : 1
1 3 1 1 2, 1 (1) : 1
1 3 1 1 3, 1 (1) : 1
1 3 1 2 1, 1 (1) : 1
1 3 1 2 2, 1 (1) : 1
1 3 1 2 3, 1 (1) : 1
1 3 1 3 1, 1 (1) : 1
1 3 1 3 2, 1 (1) : 1
1 3 1 3 3, 1 (1) : 1
1 3 2 1 1, 1 (1) : 1
1 3 2 1 2, 1 (1) : 1
1 3 2 1 3, 1 (1) : 1
1 3 2 2 1, 1 (1) : 1
1 3 2 2 2, 1 (1) : 1
1 3 2 2 3, 1 (1) : 1
1 3 2 3 1, 1 (1) : 1
1 3 2 3 2, 1 (1) : 1
1 3 2 3 3, 2 (1) : 1
1 3 3 1 1, 1 (1) : 1
1 3 3 1 2, 1 (1) : 1
1 3 3 1 3, 1 (1) : 1
1 3 3 2 1, 1 (1) : 1
1 3 3 2 2, 1 (1) : 1
1 3 3 2 3, 2 (1) : 1
1 3 3 3 1, 1 (1) : 1
1 3 3 3 2, 2 (1) : 1
1 3 3 3 3, 3 (1) : 1
2 1 1 1 1, 1 (1) : 1
2 1 1 1 2, 1 (1) : 1
2 1 1 1 3, 1 (1) : 1
2 1 1 2 1, 1 (1) : 1
2 1 1 2 2, 1 (1) : 1
2 1 1 2 3, 1 (1) : 1
2 1 1 3 1, 1 (1) : 1
2 1 1 3 2, 1 (1) : 1
2 1 1 3 3, 1 (1) : 1
2 1 2 1 1, 1 (1) : 1
2 1 2 1 2, 1 (1) : 1
2 1 2 1 3, 1 (1) : 1
2 1 2 2 1, 1 (1) : 1
2 1 2 2 2, 1 (1) : 1
2 1 2 2 3, 1 (1) : 1
2 1 2 3 1, 1 (1) : 1
2 1 2 3 2, 1 (1) : 1
2 1 2 3 3, 1 (1) : 1
2 1 3 1 1, 1 (1) : 1
2 1 3 1 2, 1 (1) : 1
2 1 3 1 3, 1 (1) : 1
```

```
2 1 3 2 1, 1 (1) : 1
2 1 3 2 2, 1 (1) : 1
2 1 3 2 3, 1 (1) : 1
2 1 3 3 1, 1 (1) : 1
2 1 3 3 2, 1 (1) : 1
2 1 3 3 3, 2 (1) : 1
2 2 1 1 1, 1 (1) : 1
2 2 1 1 2, 1 (1) : 1
2 2 1 1 3, 1 (1) : 1
2 2 1 2 1, 1 (1) : 1
2 2 1 2 2, 1 (1) : 1
2 2 1 2 3, 1 (1) : 1
2 2 1 3 1, 1 (1) : 1
2 2 1 3 2, 1 (1) : 1
2 2 1 3 3, 1 (1) : 1
2 2 2 1 1, 1 (1) : 1
2 2 2 1 2, 1 (1) : 1
2 2 2 1 3, 1 (1) : 1
2 2 2 2 1, 1 (1) : 1
2 2 2 2 2, 1 (1) : 1
2 2 2 2 3, 1 (1) : 1
2 2 2 3 1, 1 (1) : 1
2 2 2 3 2, 1 (1) : 1
2 2 2 3 3, 2 (1) : 1
2 2 3 1 1, 1 (1) : 1
2 2 3 1 2, 1 (1) : 1
2 2 3 1 3, 1 (1) : 1
2 2 3 2 1, 1 (1) : 1
2 2 3 2 2, 1 (1) : 1
2 2 3 2 3, 2 (1) : 1
2 2 3 3 1, 1 (1) : 1
2 2 3 3 2, 2 (1) : 1
2 2 3 3 3, 3 (1) : 1
2 3 1 1 1, 1 (1) : 1
2 3 1 1 2, 1 (1) : 1
2 3 1 1 3, 1 (1) : 1
2 3 1 2 1, 1 (1) : 1
2 3 1 2 2, 1 (1) : 1
2 3 1 2 3, 1 (1) : 1
2 3 1 3 1, 1 (1) : 1
2 3 1 3 2, 1 (1) : 1
2 3 1 3 3, 2 (1) : 1
2 3 2 1 1, 1 (1) : 1
2 3 2 1 2, 1 (1) : 1
2 3 2 1 3, 1 (1) : 1
2 3 2 2 1, 1 (1) : 1
2 3 2 2 2, 1 (1) : 1
2 3 2 2 3, 2 (1) : 1
2 3 2 3 1, 1 (1) : 1
2 3 2 3 2, 2 (1) : 1
2 3 2 3 3, 3 (1) : 1
2 3 3 1 1, 1 (1) : 1
2 3 3 1 2, 1 (1) : 1
2 3 3 1 3, 2 (1) : 1
2 3 3 2 1, 1 (1) : 1
2 3 3 2 2, 2 (1) : 1
2 3 3 2 3, 3 (1) : 1
```

```
2 3 3 3 1, 2 (1) : 1
2 3 3 3 2, 3 (1) : 1
2 3 3 3 3, 3 (1) : 1
3 1 1 1 1, 1 (1) : 1
3 1 1 1 2, 1 (1) : 1
3 1 1 1 3, 1 (1) : 1
3 1 1 2 1, 1 (1) : 1
3 1 1 2 2, 1 (1) : 1
3 1 1 2 3, 1 (1) : 1
3 1 1 3 1, 1 (1) : 1
3 1 1 3 2, 1 (1) : 1
3 1 1 3 3, 1 (1) : 1
3 1 2 1 1, 1 (1) : 1
3 1 2 1 2, 1 (1) : 1
3 1 2 1 3, 1 (1) : 1
3 1 2 2 1, 1 (1) : 1
3 1 2 2 2, 1 (1) : 1
3 1 2 2 3, 1 (1) : 1
3 1 2 3 1, 1 (1) : 1
3 1 2 3 2, 1 (1) : 1
3 1 2 3 3, 2 (1) : 1
3 1 3 1 1, 1 (1) : 1
3 1 3 1 2, 1 (1) : 1
3 1 3 1 3, 1 (1) : 1
3 1 3 2 1, 1 (1) : 1
3 1 3 2 2, 1 (1) : 1
3 1 3 2 3, 2 (1) : 1
3 1 3 3 1, 1 (1) : 1
3 1 3 3 2, 2 (1) : 1
3 1 3 3 3, 3 (1) : 1
3 2 1 1 1, 1 (1) : 1
3 2 1 1 2, 1 (1) : 1
3 2 1 1 3, 1 (1) : 1
3 2 1 2 1, 1 (1) : 1
3 2 1 2 2, 1 (1) : 1
3 2 1 2 3, 1 (1) : 1
3 2 1 3 1, 1 (1) : 1
3 2 1 3 2, 1 (1) : 1
3 2 1 3 3, 2 (1) : 1
3 2 2 1 1, 1 (1) : 1
3 2 2 1 2, 1 (1) : 1
3 2 2 1 3, 1 (1) : 1
3 2 2 2 1, 1 (1) : 1
3 2 2 2 2, 1 (1) : 1
3 2 2 2 3, 2 (1) : 1
3 2 2 3 1, 1 (1) : 1
3 2 2 3 2, 2 (1) : 1
3 2 2 3 3, 3 (1) : 1
3 2 3 1 1, 1 (1) : 1
3 2 3 1 2, 1 (1) : 1
3 2 3 1 3, 2 (1) : 1
3 2 3 2 1, 1 (1) : 1
3 2 3 2 2, 2 (1) : 1
3 2 3 2 3, 3 (1) : 1
3 2 3 3 1, 2 (1) : 1
3 2 3 3 2, 3 (1) : 1
3 2 3 3 3, 3 (1) : 1
```

```
3 3 1 1 1, 1 (1) : 1
3 3 1 1 2, 1 (1) : 1
3 3 1 1 3, 1 (1) : 1
3 3 1 2 1, 1 (1) : 1
3 3 1 2 2, 1 (1) : 1
3 3 1 2 3, 2 (1) : 1
3 3 1 3 1, 1 (1) : 1
3 3 1 3 2, 2 (1) : 1
3 3 1 3 3, 3 (1) : 1
3 3 2 1 1, 1 (1) : 1
3 3 2 1 2, 1 (1) : 1
3 3 2 1 3, 2 (1) : 1
3 3 2 2 1, 1 (1) : 1
3 3 2 2 2, 2 (1) : 1
3 3 2 2 3, 3 (1) : 1
3 3 2 3 1, 2 (1) : 1
3 3 2 3 2, 3 (1) : 1
3 3 2 3 3, 3 (1) : 1
3 3 3 1 1, 1 (1) : 1
3 3 3 1 2, 2 (1) : 1
3 3 3 1 3, 3 (1) : 1
3 3 3 2 1, 2 (1) : 1
3 3 3 2 2, 3 (1) : 1
3 3 3 2 3, 3 (1) : 1
3 3 3 3 1, 3 (1) : 1
3 3 3 3 2, 3 (1) : 1
3 3 3 3 3, 3 (1) : 1
```

MATLAB code for a generic FRAM function with five inputs or aspects and one output (reduced with rough sets):

```
[System]
Name='A generic FRAM Function'
Type='mamdani'
Version=2.0
NumInputs=5
NumOutputs=1
NumRules=90
AndMethod='min'
OrMethod='max'
ImpMethod='min'
AggMethod='max'
DefuzzMethod='centroid'

[Input1]
Name='Input_1'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]
```

```
[Input2]
Name='Input_2'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Input3]
Name='Input_3'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Input4]
Name='Input_4'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Input5]
Name='IVF'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Output1]
Name='Output_1'
Range=[0 1.5]
NumMFs=3
MF1='Highly.variable':'trimf',[0 0 0.75]
MF2='Variable':'trimf',[0.5 0.75 1]
MF3='Non.variable':'trimf',[0.75 1.5 1.5]

[Rules]
1 0 1 0 0, 1 (1) : 1
0 1 0 1 0, 1 (1) : 1
1 1 0 0 0, 1 (1) : 1
1 0 0 1 0, 1 (1) : 1
0 0 1 1 0, 1 (1) : 1
0 1 1 0 0, 1 (1) : 1
0 0 1 0 1, 1 (1) : 1
0 1 0 0 1, 1 (1) : 1
1 0 0 0 1, 1 (1) : 1
0 1 0 2 2, 1 (1) : 1
0 2 0 1 2, 1 (1) : 1
0 2 0 2 1, 1 (1) : 1
1 0 0 2 2, 1 (1) : 1
2 0 0 1 2, 1 (1) : 1
2 0 0 2 1, 1 (1) : 1
```

0 0 1 2 2, 1 (1) : 1
0 0 2 1 2, 1 (1) : 1
0 0 2 2 1, 1 (1) : 1
0 0 0 1 1, 1 (1) : 1
1 0 2 0 2, 1 (1) : 1
2 0 1 0 2, 1 (1) : 1
2 0 2 0 1, 1 (1) : 1
0 1 2 0 2, 1 (1) : 1
0 2 1 0 2, 1 (1) : 1
0 2 2 0 1, 1 (1) : 1
1 0 2 2 0, 1 (1) : 1
2 0 1 2 0, 1 (1) : 1
2 0 2 1 0, 1 (1) : 1
0 1 2 2 0, 1 (1) : 1
0 2 1 2 0, 1 (1) : 1
0 2 2 1 0, 1 (1) : 1
1 2 0 0 2, 1 (1) : 1
2 1 0 0 2, 1 (1) : 1
2 2 0 0 1, 1 (1) : 1
1 2 0 2 0, 1 (1) : 1
2 1 0 2 0, 1 (1) : 1
2 2 0 1 0, 1 (1) : 1
1 2 2 0 0, 1 (1) : 1
2 1 2 0 0, 1 (1) : 1
2 2 1 0 0, 1 (1) : 1
0 2 2 2 2, 1 (1) : 1
0 3 3 3 3, 3 (1) : 1
1 2 3 3 3, 2 (1) : 1
1 3 2 3 3, 2 (1) : 1
1 3 3 2 3, 2 (1) : 1
1 3 3 3 2, 2 (1) : 1
2 1 3 3 3, 2 (1) : 1
2 2 2 3 3, 2 (1) : 1
2 2 3 2 3, 2 (1) : 1
2 2 3 3 2, 2 (1) : 1
2 2 3 3 3, 3 (1) : 1
2 3 1 3 3, 2 (1) : 1
2 3 2 2 3, 2 (1) : 1
2 3 2 3 2, 2 (1) : 1
2 3 2 3 3, 3 (1) : 1
2 3 3 1 3, 2 (1) : 1
2 3 3 2 2, 2 (1) : 1
2 3 3 2 3, 3 (1) : 1
2 3 3 3 1, 2 (1) : 1
2 3 3 3 2, 3 (1) : 1
3 1 2 3 3, 2 (1) : 1
3 1 3 2 3, 2 (1) : 1
3 1 3 3 2, 2 (1) : 1
3 2 1 3 3, 2 (1) : 1
3 2 2 2 3, 2 (1) : 1
3 2 2 3 2, 2 (1) : 1
3 2 2 3 3, 3 (1) : 1
3 2 3 1 3, 2 (1) : 1
3 2 3 2 2, 2 (1) : 1
3 2 3 2 3, 3 (1) : 1
3 2 3 3 1, 2 (1) : 1
3 2 3 3 2, 3 (1) : 1

```
3 3 1 2 3, 2 (1) : 1
3 3 1 3 2, 2 (1) : 1
3 3 2 1 3, 2 (1) : 1
3 3 2 2 2, 2 (1) : 1
3 3 2 2 3, 3 (1) : 1
3 3 2 3 1, 2 (1) : 1
3 3 2 3 2, 3 (1) : 1
3 3 3 1 2, 2 (1) : 1
3 3 3 2 1, 2 (1) : 1
3 3 3 2 2, 3 (1) : 1
2 0 2 2 2, 1 (1) : 1
3 0 3 3 3, 3 (1) : 1
2 2 0 2 2, 1 (1) : 1
3 3 0 3 3, 3 (1) : 1
2 2 2 0 2, 1 (1) : 1
3 3 3 0 3, 3 (1) : 1
2 2 2 2 0, 1 (1) : 1
3 3 3 3 0, 3 (1) : 1
```

Rough sets code:

```
% Output from ROSETTA, Hussein 2020.01.13 15:57:31
%
% DiscernibilityFunctionExporter
% {DISCERNIBILITY=Object; SELECTION=All; SIMPLIFY=T; IDG=F; NAMES=F; MODULO.DECISION=F;
FILENAME=Undefined}
%
% Data (5 inputs)

f(0) =
  (A5) *
  (A4) *
  (A3) *
  (A2) *
  (A1)
end

f(1) =
  (A5) *
  (A4) *
  (A3) *
  (A2) *
  (A1)
end

f(2) =
  (A5) *
  (A4) *
```

(A3) *

(A2) *

(A1)

end

f(3) =

(A4) *

(A5) *

(A3) *

(A2) *

(A1)

end

f(4) =

(A4) *

(A5) *

(A3) *

(A2) *

(A1)

end

f(5) =

(A4) *

(A5) *

(A3) *

(A2) *

(A1)

end

f(6) =

(A4) *

(A5) *

(A3) *

(A2) *

(A1)

end

f(7) =

(A4) *

(A5) *

(A3) *

(A2) *

(A1)

end

f(8) =

(A5) *

(A4) *

(A3) *

(A2) *

(A1)

end

f(9) =

(A3) *

(A5) *

(A4) *

(A2) *

(A1)

end

f(10) =

(A3) *

(A5) *

(A4) *

(A2) *

(A1)

end

f(11) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(12) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(13) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(14) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(15) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(16) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(17) =

(A3) *

(A5) *

(A4) *

(A2) *

(A1)

end

f(18) =

(A3) *

(A5) *

(A4) *

(A2) *

(A1)

end

f(19) =

(A3) *

(A5) *

(A4) *

(A2) *

(A1)

end

f(20) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(21) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(22) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(23) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(24) =

(A3) *

(A4) *

(A5) *

(A2) *

(A1)

end

f(25) =

(A3) *

(A4) *

(A5) *

(A2 + D) *

(A1 + D)

end

f(26) =

(A4) *

(A5) *

(A3) *

(A2) *

(A1)

end

f(27) =

(A2) *

(A5) *

(A4) *

(A3) *

(A1)

```
end

f(28) =
  (A2) *
  (A5) *
  (A4) *
  (A3) *
  (A1)
end

f(29) =
  (A2) *
  (A4) *
  (A5) *
  (A3) *
  (A1)
end

f(30) =
  (A2) *
  (A4) *
  (A5) *
  (A3) *
  (A1)
end

f(31) =
  (A2) *
  (A4) *
```

(A5) *

(A3) *

(A1)

end

f(32) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(33) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(34) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(35) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(36) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(37) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(38) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(39) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(40) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(41) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(42) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(43) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1 + D)

end

f(44) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(45) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(46) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(47) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(48) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(49) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1 + D)

end

f(50) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(51) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1 + D)

end

f(52) =

(A2 + D) *

(A3 + D) *

(A4 + D) *

(A5 + D) *

(A2 + A3) *

(A2 + A4) *

(A2 + A5) *

(A1 + A2) *

(A1 + A3) *

(A1 + A4) *

(A1 + A5) *

(A1 + D)

end

f(53) =

(A2) *

(A5) *

(A4) *

(A3) *

(A1)

end

f(54) =

(A2) *

(A5) *

(A4) *

(A3) *

(A1)

end

f(55) =

(A2) *

(A5) *

(A4) *

(A3) *

(A1)

end

f(56) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(57) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(58) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(59) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(60) =

(A2) *

(A4) *

(A5) *

(A3) *

(A1)

end

f(61) =

(A2) *

(A4) *

(A5) *

(A3 + D) *

(A1 + D)

end

f(62) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(63) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(64) =

(A2) *

(A3) *

(A5) *

(A4) *

(A1)

end

f(65) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(66) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

```
end

f(67) =
  (A2) *
  (A3) *
  (A4) *
  (A5) *
  (A1 + D)
end

f(68) =
  (A2) *
  (A3) *
  (A4) *
  (A5) *
  (A1)
end

f(69) =
  (A2) *
  (A3) *
  (A4) *
  (A5) *
  (A1 + D)
end

f(70) =
  (A2 + D) *
  (A2 + A3) *
```

```
  (A3 + D) *
  (A4 + D) *
  (A5 + D) *
  (A3 + A4) *
  (A3 + A5) *
  (A1 + A2) *
  (A1 + A3) *
  (A1 + A4) *
  (A1 + A5) *
  (A1 + D)
end

f(71) =
  (A2) *
  (A3) *
  (A5) *
  (A4) *
  (A1)
end

f(72) =
  (A2) *
  (A3) *
  (A5) *
  (A4) *
  (A1)
end

f(73) =
```

(A2) *

(A3) *

(A5) *

(A4 + D) *

(A1 + D)

end

f(74) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1)

end

f(75) =

(A2) *

(A3) *

(A4) *

(A5) *

(A1 + D)

end

f(76) =

(A2 + D) *

(A2 + A4) *

(A3 + D) *

(A3 + A4) *

(A4 + D) *

```
  (A5 + D) *
  (A4 + A5) *
  (A1 + A2) *
  (A1 + A3) *
  (A1 + A4) *
  (A1 + A5) *
  (A1 + D)
end

f(77) =
  (A2) *
  (A3) *
  (A4) *
  (A5 + D) *
  (A1 + D)
end

f(78) =
  (A2 + D) *
  (A2 + A5) *
  (A3 + D) *
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A1 + A2) *
  (A1 + A3) *
  (A1 + A4) *
  (A1 + A5) *
```

(A1 + D)

end

f(79) =

(A2 + D) *

(A3 + D) *

(A4 + D) *

(A5 + D) *

(A1)

end

f(80) =

(A3) *

(A5) *

(A4) *

(A2) *

(A1)

end

f(81) =

(A1) *

(A5) *

(A4) *

(A3) *

(A2)

end

f(82) =

(A1) *

(A5) *

(A4) *

(A3) *

(A2)

end

f(83) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

f(84) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

f(85) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

```
f(86) =
  (A1) *
  (A4) *
  (A5) *
  (A3) *
  (A2)
end

f(87) =
  (A1) *
  (A4) *
  (A5) *
  (A3) *
  (A2)
end

f(88) =
  (A1) *
  (A4) *
  (A5) *
  (A3) *
  (A2)
end

f(89) =
  (A1) *
  (A3) *
  (A5) *
```

(A4) *

(A2)

end

f(90) =

(A1) *

(A3) *

(A5) *

(A4) *

(A2)

end

f(91) =

(A1) *

(A3) *

(A5) *

(A4) *

(A2)

end

f(92) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(93) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(94) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(95) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(96) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

```
end

f(97) =
  (A1) *
  (A3) *
  (A4) *
  (A5) *
  (A2 + D)
end

f(98) =
  (A1) *
  (A3) *
  (A5) *
  (A4) *
  (A2)
end

f(99) =
  (A1) *
  (A3) *
  (A5) *
  (A4) *
  (A2)
end

f(100) =
  (A1) *
  (A3) *
```

```
  (A5) *
  (A4) *
  (A2)
end

f(101) =
  (A1) *
  (A3) *
  (A4) *
  (A5) *
  (A2)
end

f(102) =
  (A1) *
  (A3) *
  (A4) *
  (A5) *
  (A2)
end

f(103) =
  (A1) *
  (A3) *
  (A4) *
  (A5) *
  (A2 + D)
end
```

f(104) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(105) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2 + D)

end

f(106) =

(A1 + D) *

(A1 + A2) *

(A3 + D) *

(A4 + D) *

(A5 + D) *

(A2 + A3) *

(A2 + A4) *

(A2 + A5) *

(A2 + D) *

(A1 + A3) *

(A1 + A4) *

(A1 + A5)

```
end

f(107) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
  (A3)
end

f(108) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
  (A3)
end

f(109) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
  (A3)
end

f(110) =
  (A1) *
  (A2) *
```

(A4) *

(A5) *

(A3)

end

f(111) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(112) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(113) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(114) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(115) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3 + D)

end

f(116) =

(A1) *

(A2) *

(A3) *

(A5) *

(A4)

end

f(117) =

(A1) *

(A2) *

(A3) *

(A5) *

(A4)

end

f(118) =

(A1) *

(A2) *

(A3) *

(A5) *

(A4)

end

f(119) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(120) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(121) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(122) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(123) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(124) =

(A1 + D) *

(A1 + A3) *

(A1 + A2) *

(A2 + D) *

(A2 + A3) *

(A3 + D) *

```
  (A4 + D) *
  (A5 + D) *
  (A3 + A4) *
  (A3 + A5) *
  (A2 + A4) *
  (A2 + A5) *
  (A1 + A4) *
  (A1 + A5)
end

f(125) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end

f(126) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end

f(127) =
  (A1) *
  (A2) *
```

```
  (A3) *
  (A5) *
  (A4 + D)
end

f(128) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5)
end

f(129) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5)
end

f(130) =
  (A1 + D) *
  (A1 + A4) *
  (A1 + A2) *
  (A2 + D) *
  (A2 + A4) *
  (A3 + D) *
  (A3 + A4) *
```

```
  (A4 + D) *
  (A5 + D) *
  (A4 + A5) *
  (A2 + A3) *
  (A2 + A5) *
  (A1 + A3) *
  (A1 + A5)
end

f(131) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5 + D)
end

f(132) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A2) *
  (A2 + D) *
  (A2 + A5) *
  (A3 + D) *
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A2 + A3) *
```

```
  (A2 + A4) *
  (A1 + A3) *
  (A1 + A4)
end

f(133) =
  (A2) *
  (A4 + D) *
  (A5 + D) *
  (A3 + D) *
  (A1)
end

f(134) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
  (A3)
end

f(135) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
  (A3)
end
```

```
f(136) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
  (A3)
end

f(137) =
  (A1) *
  (A2) *
  (A4) *
  (A5) *
  (A3)
end

f(138) =
  (A1) *
  (A2) *
  (A4) *
  (A5) *
  (A3)
end

f(139) =
  (A1) *
  (A2) *
  (A4) *
  (A5) *
```

(A3 + D)

end

f(140) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(141) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3 + D)

end

f(142) =

(A1 + D) *

(A1 + A3) *

(A2 + D) *

(A2 + A3) *

(A4 + D) *

(A5 + D) *

(A3 + A4) *

(A3 + A5) *

(A3 + D) *

```
  (A1 + A2) *
  (A1 + A4) *
  (A1 + A5)
end

f(143) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end

f(144) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end

f(145) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4 + D)
end
```

f(146) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(147) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(148) =

(A1 + D) *

(A1 + A4) *

(A1 + A3) *

(A2 + D) *

(A2 + A4) *

(A2 + A3) *

(A3 + D) *

(A3 + A4) *

(A4 + D) *

(A5 + D) *

(A4 + A5) *

(A3 + A5) *

```
  (A1 + A2) *
  (A1 + A5)
end

f(149) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5 + D)
end

f(150) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A3) *
  (A2 + D) *
  (A2 + A5) *
  (A2 + A3) *
  (A3 + D) *
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A3 + A4) *
  (A1 + A2) *
  (A1 + A4)
end
```

```
f(151) =
  (A3) *
  (A5 + D) *
  (A2 + D) *
  (A4 + D) *
  (A1)
end

f(152) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end

f(153) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4 + D)
end

f(154) =
  (A1 + D) *
  (A1 + A4) *
  (A2 + D) *
  (A2 + A4) *
```

```
  (A3 + D) *
  (A3 + A4) *
  (A5 + D) *
  (A4 + A5) *
  (A4 + D) *
  (A1 + A2) *
  (A1 + A3) *
  (A1 + A5)
end

f(155) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5 + D)
end

f(156) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A4) *
  (A2 + D) *
  (A2 + A5) *
  (A2 + A4) *
  (A3 + D) *
  (A3 + A5) *
  (A3 + A4) *
  (A4 + D) *
```

```
  (A4 + A5) *
  (A5 + D) *
  (A1 + A2) *
  (A1 + A3)
end

f(157) =
  (A4) *
  (A3 + D) *
  (A2 + D) *
  (A5 + D) *
  (A1)
end

f(158) =
  (A1 + D) *
  (A1 + A5) *
  (A2 + D) *
  (A2 + A5) *
  (A3 + D) *
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A1 + A2) *
  (A1 + A3) *
  (A1 + A4)
end
```

```
f(159) =
  (A5) *
  (A3 + D) *
  (A2 + D) *
  (A4 + D) *
  (A1)
end

f(160) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5)
end

f(161) =
  (A1) *
  (A5) *
  (A4) *
  (A3) *
  (A2)
end

f(162) =
  (A1) *
  (A5) *
  (A4) *
  (A3) *
```

(A2)

end

f(163) =

(A1) *

(A5) *

(A4) *

(A3) *

(A2)

end

f(164) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

f(165) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

f(166) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

f(167) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

f(168) =

(A1) *

(A4) *

(A5) *

(A3) *

(A2)

end

f(169) =

(A1) *

(A4) *

(A5) *

(A3 + D) *

(A2 + D)

end

f(170) =

(A1) *

(A3) *

(A5) *

(A4) *

(A2)

end

f(171) =

(A1) *

(A3) *

(A5) *

(A4) *

(A2)

end

f(172) =

(A1) *

(A3) *

(A5) *

(A4) *

(A2)

end

f(173) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(174) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(175) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2 + D)

end

f(176) =

(A1) *

(A3) *

(A4) *

(A5) *

(A2)

end

f(177) =

```
  (A1) *
  (A3) *
  (A4) *
  (A5) *
  (A2 + D)
end

f(178) =
  (A1 + D) *
  (A1 + A2) *
  (A1 + A3) *
  (A3 + D) *
  (A4 + D) *
  (A5 + D) *
  (A3 + A4) *
  (A3 + A5) *
  (A2 + A3) *
  (A2 + A4) *
  (A2 + A5) *
  (A2 + D)
end

f(179) =
  (A1) *
  (A3) *
  (A5) *
  (A4) *
  (A2)
end
```

```
f(180) =
  (A1) *
  (A3) *
  (A5) *
  (A4) *
  (A2)
end

f(181) =
  (A1) *
  (A3) *
  (A5) *
  (A4 + D) *
  (A2 + D)
end

f(182) =
  (A1) *
  (A3) *
  (A4) *
  (A5) *
  (A2)
end

f(183) =
  (A1) *
  (A3) *
  (A4) *
```

```
  (A5) *
  (A2 + D)
end

f(184) =
  (A1 + D) *
  (A1 + A2) *
  (A1 + A4) *
  (A3 + D) *
  (A3 + A4) *
  (A4 + D) *
  (A5 + D) *
  (A4 + A5) *
  (A2 + A3) *
  (A2 + A4) *
  (A2 + A5) *
  (A2 + D)
end

f(185) =
  (A1) *
  (A3) *
  (A4) *
  (A5 + D) *
  (A2 + D)
end

f(186) =
  (A1 + D) *
```

```
  (A1 + A2) *
  (A1 + A5) *
  (A3 + D) *
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A2 + A3) *
  (A2 + A4) *
  (A2 + A5) *
  (A2 + D)
end

f(187) =
  (A1 + D) *
  (A5 + D) *
  (A3 + D) *
  (A4 + D) *
  (A2)
end

f(188) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
  (A3)
end
```

f(189) =

(A1) *

(A2) *

(A5) *

(A4) *

(A3)

end

f(190) =

(A1) *

(A2) *

(A5) *

(A4) *

(A3)

end

f(191) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(192) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(193) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3 + D)

end

f(194) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(195) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3 + D)

end

f(196) =

(A1 + D) *

```
  (A1 + A3) *
  (A1 + A2) *
  (A2 + D) *
  (A2 + A3) *
  (A4 + D) *
  (A5 + D) *
  (A3 + A4) *
  (A3 + A5) *
  (A3 + D) *
  (A2 + A4) *
  (A2 + A5)
end

f(197) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end

f(198) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end
```

f(199) =

(A1) *

(A2) *

(A3) *

(A5) *

(A4 + D)

end

f(200) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(201) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(202) =

(A1 + D) *

(A1 + A4) *

(A1 + A3) *

(A1 + A2) *

```
  (A2 + D) *
  (A2 + A4) *
  (A2 + A3) *
  (A3 + D) *
  (A3 + A4) *
  (A4 + D) *
  (A5 + D) *
  (A4 + A5) *
  (A3 + A5) *
  (A2 + A5)
end

f(203) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5 + D)
end

f(204) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A3) *
  (A1 + A2) *
  (A2 + D) *
  (A2 + A5) *
  (A2 + A3) *
  (A3 + D) *
```

```
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A3 + A4) *
  (A2 + A4)
end

f(205) =
  (A1 + D) *
  (A5 + D) *
  (A4 + D) *
  (A3) *
  (A2)
end

f(206) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
end

f(207) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
```

```
  (A4 + D)
end

f(208) =
  (A1 + D) *
  (A1 + A4) *
  (A1 + A2) *
  (A2 + D) *
  (A2 + A4) *
  (A3 + D) *
  (A3 + A4) *
  (A5 + D) *
  (A4 + A5) *
  (A4 + D) *
  (A2 + A3) *
  (A2 + A5)
end

f(209) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5 + D)
end

f(210) =
  (A1 + D) *
  (A1 + A5) *
```

```
  (A1 + A4) *
  (A1 + A2) *
  (A2 + D) *
  (A2 + A5) *
  (A2 + A4) *
  (A3 + D) *
  (A3 + A5) *
  (A3 + A4) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A2 + A3)
end

f(211) =
  (A1 + D) *
  (A3 + D) *
  (A5 + D) *
  (A4) *
  (A2)
end

f(212) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A2) *
  (A2 + D) *
  (A2 + A5) *
  (A3 + D) *
```

```
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A2 + A3) *
  (A2 + A4)
end

f(213) =
  (A1 + D) *
  (A3 + D) *
  (A4 + D) *
  (A5) *
  (A2)
end

f(214) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5)
end

f(215) =
  (A1) *
  (A2) *
  (A5) *
  (A4) *
```

(A3)

end

f(216) =

(A1) *

(A2) *

(A5) *

(A4) *

(A3)

end

f(217) =

(A1) *

(A2) *

(A5) *

(A4 + D) *

(A3 + D)

end

f(218) =

(A1) *

(A2) *

(A4) *

(A5) *

(A3)

end

f(219) =

(A1) *

```
  (A2) *
  (A4) *
  (A5) *
  (A3 + D)
end

f(220) =
  (A1 + D) *
  (A1 + A3) *
  (A1 + A4) *
  (A2 + D) *
  (A2 + A3) *
  (A2 + A4) *
  (A4 + D) *
  (A5 + D) *
  (A4 + A5) *
  (A3 + A4) *
  (A3 + A5) *
  (A3 + D)
end

f(221) =
  (A1) *
  (A2) *
  (A4) *
  (A5 + D) *
  (A3 + D)
end
```

```
f(222) =
  (A1 + D) *
  (A1 + A3) *
  (A1 + A5) *
  (A2 + D) *
  (A2 + A3) *
  (A2 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A3 + A4) *
  (A3 + A5) *
  (A3 + D)
end

f(223) =
  (A1 + D) *
  (A4 + D) *
  (A2 + D) *
  (A5 + D) *
  (A3)
end

f(224) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4)
```

```
end

f(225) =
  (A1) *
  (A2) *
  (A3) *
  (A5) *
  (A4 + D)
end

f(226) =
  (A1 + D) *
  (A1 + A4) *
  (A1 + A3) *
  (A2 + D) *
  (A2 + A4) *
  (A2 + A3) *
  (A3 + D) *
  (A3 + A4) *
  (A5 + D) *
  (A4 + A5) *
  (A4 + D) *
  (A3 + A5)
end

f(227) =
  (A1) *
  (A2) *
  (A3) *
```

```
  (A4) *
  (A5 + D)
end

f(228) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A4) *
  (A1 + A3) *
  (A2 + D) *
  (A2 + A5) *
  (A2 + A4) *
  (A2 + A3) *
  (A3 + D) *
  (A3 + A5) *
  (A3 + A4) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D)
end

f(229) =
  (A1 + D) *
  (A5 + D) *
  (A4) *
  (A2 + D) *
  (A3)
end
```

```
f(230) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A3) *
  (A2 + D) *
  (A2 + A5) *
  (A2 + A3) *
  (A3 + D) *
  (A3 + A5) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D) *
  (A3 + A4)
end

f(231) =
  (A1 + D) *
  (A4 + D) *
  (A5) *
  (A2 + D) *
  (A3)
end

f(232) =
  (A1) *
  (A2) *
  (A3) *
  (A4) *
  (A5)
```

```
end

f(233) =
  (A1) *
  (A2) *
  (A3) *
  (A5 + D) *
  (A4 + D)
end

f(234) =
  (A1 + D) *
  (A1 + A4) *
  (A1 + A5) *
  (A2 + D) *
  (A2 + A4) *
  (A2 + A5) *
  (A3 + D) *
  (A3 + A4) *
  (A3 + A5) *
  (A5 + D) *
  (A4 + A5) *
  (A4 + D)
end

f(235) =
  (A1 + D) *
  (A3 + D) *
  (A2 + D) *
```

```
  (A5 + D) *
  (A4)
end

f(236) =
  (A1 + D) *
  (A1 + A5) *
  (A1 + A4) *
  (A2 + D) *
  (A2 + A5) *
  (A2 + A4) *
  (A3 + D) *
  (A3 + A5) *
  (A3 + A4) *
  (A4 + D) *
  (A4 + A5) *
  (A5 + D)
end

f(237) =
  (A1 + D) *
  (A3 + D) *
  (A5) *
  (A2 + D) *
  (A4)
end

f(238) =
  (A1) *
```

(A2) *

(A3) *

(A4) *

(A5)

end

f(239) =

(A1 + D) *

(A3 + D) *

(A2 + D) *

(A4 + D) *

(A5)

end

f(240) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

f(241) =

(A1) *

(A2) *

(A3) *

(A4) *

(A5)

end

% Reducts generated by ROSETTA.

% Exported 2020.01.13 15:58:19 by Hussein.

%

% Reducts (5 inputs)

% 26 reducts.

{A1, A3}

Support = [100 subtable(s)]

{A2, A4}

Support = [100 subtable(s)]

{A1, A2}

Support = [100 subtable(s)]

{A1, A4}

Support = [100 subtable(s)]

{A3, A4}

Support = [100 subtable(s)]

{A2, A3}

Support = [100 subtable(s)]

{A3, A5}

Support = [100 subtable(s)]

{A2, A5}

Support = [100 subtable(s)]

{A1, A5}

Support = [100 subtable(s)]

{A2, A4, A5}

Support = [100 subtable(s)]

{A1, A4, A5}

Support = [100 subtable(s)]

{A3, A4, A5}

Support = [100 subtable(s)]

{A4, A5}

Support = [100 subtable(s)]

{A1, A3, A5}

Support = [100 subtable(s)]

{A2, A3, A5}

Support = [100 subtable(s)]

{A1, A3, A4}

Support = [100 subtable(s)]

{A2, A3, A4}

Support = [100 subtable(s)]

{A1, A2, A5}

Support = [100 subtable(s)]

{A1, A2, A4}

Support = [100 subtable(s)]

{A1, A2, A3}

Support = [100 subtable(s)]

{A2, A3, A4, A5}

Support = [100 subtable(s)]

{A1, A2, A3, A4, A5}

Support = [100 subtable(s)]

{A1, A3, A4, A5}

Support = [100 subtable(s)]

{A1, A2, A4, A5}

Support = [100 subtable(s)]

{A1, A2, A3, A5}

Support = [100 subtable(s)]

{A1, A2, A3, A4}

Support = [100 subtable(s)]