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macro "Grid Creator [b]" {

    count = 0;
    iteration = 0;

    setOption("ExpandableArrays", true);

    boxSize = newArray;
    nonEmpty = newArray;

    for(side = 10; side > 3; side--) {

        n = side*log(2);
        m = exp(n);
        mm = exp(2*n);

        for(xPoint = 0; xPoint < 1024; xPoint = xPoint + m) {
            for(yPoint = 0; yPoint < 1024; yPoint =
yPoint + m) {

                run("Make Binary");
                run("Make Binary");

                makeRectangle(xPoint, yPoint, m, m);
                run("Measure");

                if(getResult("Area", nResults - 1) >
0 ) {

                    count = count + 1;

                }

                if(m == 4){
                    drawRect(xPoint, yPoint, m,
m);

                }

            }

        }

        boxSize[iteration] = m;
        nonEmpty[iteration] = count;
        count = 0;
        iteration = iteration + 1;
    }

    run("Close");

    for(i = 0; i < boxSize.length; i++){
        boxSize[i] = log(boxSize[i]);
    }
}

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        nonEmpty[i] = log(nonEmpty[i]);
    }

    for(i = 0; i < boxSize.length; i++){
        print(boxSize[i]);
    }

    for(i = 0; i < nonEmpty.length; i++){
        print(nonEmpty[i]);
    }

    saveAs("Text", "C:/Users/thona/OneDrive/Documents/MATLAB/
Summer Research/imageDataDensity.txt");
}
```