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Introduction to Electronic Design Automation (EE4026)

Homework #1
(Due: Apr. 16)

1. For the following two pieces of programs, what are their computational complexities respectively? Which one is better in terms of computation time?? Please explain your reasons.

(a)

```
for (int i=0; i<n; i++)
   for (int j=0; j<n; j++) {
      cout << i << 'x' << j;
      cout << " = " << i*j << endl; }
```

(b)

```
for (int i=0; i<n; i++)
   cout << i << 'x' << j << '=' << i*j << endl;
for (int j=0; j<n; j++)
   cout << i << 'x' << j << '=' << i*j << endl;
```

2. Please apply the F-M algorithm and show the step-by-step solutions to find a balanced bipartition of the circuit shown below. Let the desired balance factor be 0.43 and the sizes of cells as follows: s(c1) = 2, s(c2) = 5, s(c3) = 1, s(c4) = 2, s(c5) = 4, and s(c6) = 2. The initial partition is A = {c1,c2,c3} and B = {c4,c5,c6}.