Programming Assignment 4: Due May 21 by 5pm

Write a C program that generates the force-directed schedule of an input dataflow graph. Force-directed scheduling was described in class, and is described in Section 5.4.4 of the textbook. You only need to consider self forces in your algorithm. You may ignore predecessor and successor forces. The input to your program will be a graph. You do not need a resource allocation for this assignment. The output should be a scheduled graph represented by the reservation table.

Your program should make use of the high level synthesis library libHLS. libHLS has two functions you can use for this assignment:

```c
int node_get_asap_cstep(Node *n);
int node_get_alap_cstep(Node *n);
```

These return the resource unconstrained ASAP and ALAP scheduling csteps of the node passed into the function. These define the timeframe in which the node can be scheduled. Use these functions, and not your own ASAP/ALAP code.

To submit your program, put your code in your COE account under the link Courses/ECE3485/PA4. Put the file fd_sched.c only! Make sure your files and directoyr are group readable.

If you have questions on this assignment, send email to mel@ece.neu.edu.

We will run your code according to the instructions. You will be graded on:

1. How well your code runs (including whether you followed the directions)
2. how well your code works, and
3. the quality of the code and the comments.

Uncommented code will lose points.

Getting Started

Instructions for this assignment can be found in `libhls/PA4/README` on the COE machines. A skeleton C file for your code can be found in `ece3485/PA4/examples/main.c`. The program parses command-line arguments and calls `fd_sched.c`. Your code goes into this function.

All work in this class is expected to reflect your individual effort.