**ECS 175 Project 4**

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**How To Compile and Run Program**

1. On the command line, run “make”.
2. My Makefile should create an executable called “main”
3. Run “main” to start program
4. Run “make clean” to clean-up object files

**How to Run Program**

1. You can start my program by running main:
   1. Run “main”
2. First my program will ask you if you have an input file you want to use
3. If you say yes, it will read the input tile
   1. The input file are in this order:
      1. # of curves
      2. # of control points
      3. Control Points
      4. Order
      5. Knot Values
4. If you say no, then it will ask you:
   1. How many curves you want
   2. For eac curve:
      1. How many Control Points in each curve
      2. The Control Point Values
      3. Order
      4. Knot values
5. After an input has been specified, the program will show you a menu of choices:
   1. Display Curves
      1. Will draw out a curve
      2. Will ask you for:
         1. Which curve ID you want to view
         2. What Resolution you want
         3. Which Method you want (1 for Bezier, and 2 for B-Spline)
      3. Afterwards it will ask you if you want to write to a file, in which if you say y, then it will output a new input file that you specify
      4. Then it will ask you whether or not you want to quit the program.
   2. Add Control Point
      1. Which curve ID you would want to manipulate
      2. What location you want to add your point (0 at the front, N for the end)
      3. X and Y values
   3. Delete Control Point
      1. Which curve ID you would want to manipulate
      2. What location you want to add your point (0 at the front, N for the end)
   4. Modify Control Point
      1. Which curve ID you would want to manipulate
      2. What point you want to change your values (o at the front, N for the end)
      3. New X and Y values
   5. Change Order and knots
      1. Which curve ID you would want to manipulate
      2. What order you want
      3. New knot values.

**Where did I implement my Algorithms and notes about them:**

**Bezier:** Bresenham.cpp from lines 127 to 186

**B-Spline:** main.cpp from lines 190 to 266

Note: They both seem to be working as far as I can tell!

**Example Input File inputs:**1  
  
5  
10 10  
20 50  
30 45  
40 20  
10 10  
3  
0  
1  
2  
3  
4  
5  
6  
7