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:
        i. # of curves
        ii. # of control points
        iii. Control Points
        iv. Order
        v. Knot Values
4) If you say no, then it will ask you:
    1. How many curves you want
    2. For eac curve:
        i. How many Control Points in each curve
        ii. The Control Point Values
        iii. Order
        iv. Knot values
5) After an input has been specified, the program will show you a menu of choices:
    1. Display Curves
        i. Will draw out a curve

ii. 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)
iii. 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
iv. Then it will ask you whether or not you want to quit the program.

2. Add Control Point
    i. Which curve ID you would want to manipulate
    ii. What location you want to add your point (0 at the front, N for the end)
    iii. X and Y values
3. Delete Control Point
    i. Which curve ID you would want to manipulate
    ii. What location you want to add your point (0 at the front, N for the end)
4. Modify Control Point
    i. Which curve ID you would want to manipulate
    ii. What point you want to change your values (o at the front, N for the end)
    iii. New X and Y values
5. Change Order and knots
    i. Which curve ID you would want to manipulate
    ii. What order you want
    iii. 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
```