COMP 2004
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Assignment 1

1. (10%) Create a program that runs all four of the loops, separating outputs by a blank line.:
   a.
   ```
   for(i = 0; i < 10; i = i + 2)
        printf("%d\n", i);
   ```
   b.
   ```
   for(i = 100; i >= 0; i = i - 7)
        printf("%d\n", i);
   ```
   c.
   ```
   for(i = 1; i <= 10; i = i + 1)
        printf("%d\n", i);
   ```
   d.
   ```
   for(i = 2; i < 100; i = i * 2)
        printf("%d\n", i);
   ```

2. (40%) Write a program that prints the numbers from 1 to a number provided as an argument to the program (Max 999). For numbers that are multiples of 3 print “three” and for numbers that are multiples of 5 print “five”. For numbers that are multiples of both 3 and 5 print “threefive”.

   For example: **./a1q1 16** will print:

   ```
   1
   2
   three
   4
   five
   three
   7
   8
   three
   five
   11
   three
   13
   14
   threefive
   16
   ```

Note that the argument for this program must be provided as a command-line parameter. This means you must use parameters in the main function. You also need to notify the user if no parameter is passed.

3. (50%) Write a program that reads from a file located in the same folder a series of points (i.e. x, y integers coordinates), one each line. The program should calculate the distance between all the points in the file as a path. The file will be called “points.csv”. Your code should be correct with any number of points (i.e. any file size).

   The output will be each pair of points, and the distance between them, with the total distance of the path as the last line of output.

   For example:

   For the input file:

```
0, 0
5, 0
7, 0
```

   The output would be:

```
0, 0 - 5, 0: 5
5, 0 - 7, 0: 2
Total path: 7
```