

BiL 102 – Computer Programming

HW 00

Last Submission Date: February 17, 2013 – 09:00

1. (50Pts) Examine the code below, which is written to evaluate a given parabola for a given value.

```
1  /*#####*/
2  /*HW00_101043000_part1.c                                */
3  /*_____*/
4  /*Written by Evren Cifci on February 2, 2014            */
5  /*_____*/
6  /*Description:                                          */
7  /*_____*/
8  /*Evaluates a given 2nd Degree polynomial              */
9  /*Inputs:                                              */
10 /* Coefficients of the Poly                            */
11 /* Number for which the Poly will be evaluated         */
12 /*Outputs:                                             */
13 /* Result                                              */
14 /*#####*/
15
16 #include<stdio.h>
17
18 int main(){
19     /*START_OF_MAIN*/
20     double c1, c2, c3; /*coefficients of the poly*/
21     double x;          /*variable of poly*/
22     double result;     /*evaluation value*/
23
24     /*END_OF_VARIABLES*/
25     /*Get the poly*/
26     printf("Enter the coefficients of the poly (from higher to lower order): ");
27     scanf("%lf, %lf, %lf", &c1, &c2, &c3);
28
29     /*Get the value of the variable*/
30     printf("Enter the value of x: ");
31     scanf("%lf", &x);
32
33     /*Calculate the evaluation value*/
34     result = c1*x*x + c2*x + x;
35
36     /*Print the result*/
37     printf("The result is %5.3f.");
38
39
40     /*END_OF_MAIN*/
```

Correct all syntax and logical errors in the code. Compile and link the code using the gcc compiler under Linux. Run the executable file obtained from the code, make sure that it works properly. Submit both the error-free source code and the screen out of the executable (screen capture after an execution).

2. **(50 Pts)** Change the code in part 1 so that it takes the derivative of a given parabola and outputs the resulting 1st degree polynomial.

For example, if the following coefficients for the parabola is given

3, 2 ,5 (representing the polynomial of $3x^2 + 2x + 5$),
your program should print $6x+2$.

General:

1. Obey honor code principles.
2. Obey coding convention.
3. Do not forget to put the required **tags** in the main function.
4. Your submission should include the following files only:
 - HW00_<student_name>_<studentSirname>_<student number>_part1.c
 - HW00_<student_name>_<studentSirname>_<student number>_part1.jpg
 - HW00_<student_name>_<studentSirname>_<student number>_part2.c
5. Deliver the printout of your work (all 3 files) **until the last submission date**.
6. Do not use non-English characters in any part of your homework (in body, **file name**, etc.).