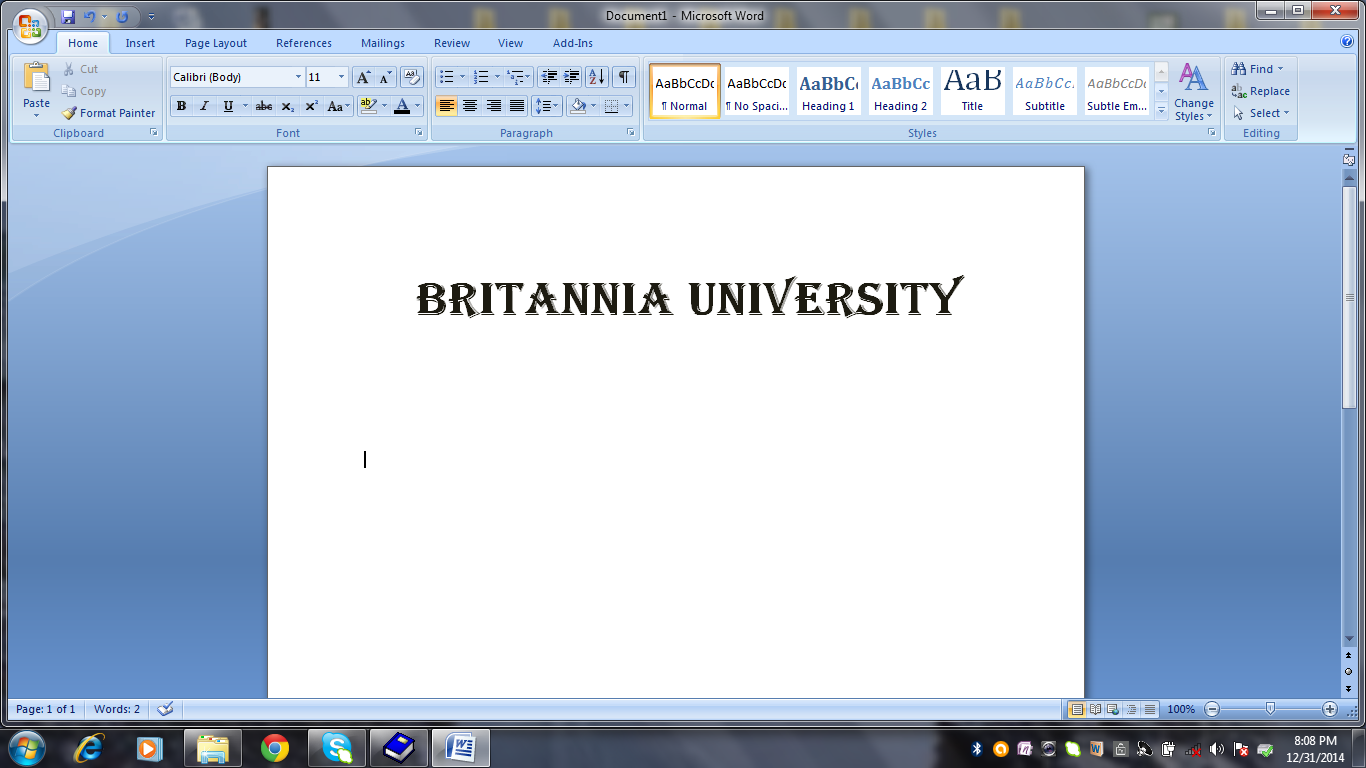


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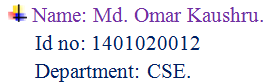
**Course title:** Numerical Methods.

* **Lab report on:** A c program which implements bisection method to find the root of a specific function.



Date of Submission: 17-02-2016

Submitted by:

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* A c program which implements bisection method to find the root of a specific function.

#include <stdio.h>

#include <math.h>

**double** myFunction**(double** x**,** **double** a**,** **double** b**,** **double** c**,** **double** d**,** **double** e**){**

**return** a**\***x**\***x**\***x**\***x **+** b**\***x**\***x**\***x **+** c**\***x**\***x **+** d**\***x **+** e**;**

**}**

**int** main**(){**

**double** a**,**b**,**c**,**d**,**e**;**

**double** l**,** r**,** mi**,** epsilon **=** .0000001**;**

**double** mv**,** rv**,** root**;**

printf**("\n Enter values for a,b,c,d and e:");**

scanf**("%lf %lf %lf %lf %lf",** **&**a**,** **&**b**,** **&**c**,** **&**d**,** **&**e**);**

printf**("\n Enter values for starting left and right points:");**

scanf**("%lf %lf",** **&**l**,** **&**r**);**

printf**(" Left and right starting points are: %lf , %lf\n",** l**,**r**);**

**do** **{**

mi **=** **(**l **+** r**)/**2**;**

rv **=** myFunction**(**r**,**a**,**b**,**c**,**d**,**e**);**

mv **=** myFunction**(**mi**,**a**,**b**,**c**,**d**,**e**);**

**if** **(**rv **\*** mv **>=** 0**)**

r **=** mi**;**

**else** l **=** mi**;**

**}** **while** **((**r **-** l**)** **>** epsilon**);**

root **=** **(**r**+**l**)/**2**;**

printf**("\n Root for equation \n %5.2lf \*x^4 + %5.2lf \*x^3 + %5.2lf \*x^2 + %5.2lf \*x + %5.2lf is:",**a**,**b**,**c**,**d**,**e**);**

printf**(" %15.10lf\n",** root**);**

**return** 0**;**

**}**

Sample Input/Output:

