

# Homework 8

## Objective :

Learning how to use *function call*.

## Exercise :

### 8

Design a program that draws the function below:

$$y = a * x^5 + b * x^4 + c * x^3 + d * x^2 + e * x + f$$

Use ‘\*’ to represent the graphic of the function. The coordinate system should rotate 90 degrees clockwise. The range of X-axis to print should include the middle part of the function. Therefore, you should adjust yourself. Next, user will input three times: first, the six coefficients: a, b, c, d, e and f; second, the X-axis coordinate of tangent point P; third, a range of X-axis x1, x2. Then, design four functions following below rule:

1. *void Differential\_1(int):*

Input tangent point P then calculate differential approximation at point P. The range of  $\Delta x$  is *for(i=0.1; i>=0.01; i-=0.01)*. Every times you calculate, you should print the result on screen.

2. *void Differential\_2(int):*

Input tangent point P then calculate differential. After calculate, you should print the result on screen.

3. *void Integral\_1(int,int):*

Input the range of X-axis x1, x2, use left endpoint partition to calculate integral approximation. The range of  $\Delta x$  is *for(i=0.1; i>=0.01; i-=0.01)*. Every times you calculate, you should print the result on screen.

4. *void Integral\_2(int,int):*

Input the range of X-axis x1, x2 then calculate the integral. After calculate, you should print the result on screen.

The goal this time is the function above. It is ok if the range of X-axis your program print is different to the sample output. However, you still need to print out your function.

※The range of Y-axis to print is from -39 to 40 in order to fit the size of the terminal.

Output:



## Rule and Format :

Comment in your program will get addition point in consider.

Please hand in .c file and name your .c file with your student number.

Compress all the .c file and name with your student number.

Upload the compressed file finally.

Example:

If your student number is B073040055, the file name will be B073040055.c.

Compressed file is B073040055.rar/.zip.

Deadline is **2018.11.22** (Thur.) before class.

No input/output will get 0 point.

Please upload homework to Cyber University:

1. Go to NSYSU Cyber University <http://cu.nsysu.edu.tw/>
2. Sign in and select C program design(I)
3. Click “Assessment Center”



4. Click “Do assignment”

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| 作業/報告 | 測驗/考試 | 問卷/投票

作業 / 報告

作業型態	比重	名稱	時間	繳交狀態	開始	開放觀摩	教師試做
個人	100%	Homework01	從 即日起 到 2017-10-12 12:00	進行作業		不公布	教師試做

## 5. Click "Start"

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準備進行作業

您好，請詳細閱讀以下作答注意事項後開始作答。若不馬上作答，可按「下次再來」離開。

作業名稱：	Homework01
總分	0分
比重	100%
總題數	0題
作答起訖日期與時間	從 即日起 到 2017-10-12 12:00
是否可重繳	可重繳
開放觀摩	不公布
作答說明/師長叮嚀	C程式設計(一)作業繳交 請繳交.cpp檔。 .cpp檔的檔名一律統一，以學號為檔名。 Ex:B063040001.cpp

開始作答 下次再來

## 6. Click "選擇檔案" -> upload file .cpp -> submit

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1061\_C程式設計(一) | 作業/報告 | 測驗/考試 | 問卷/投票

作業 / 報告

作業名稱：Homework01

作業內容

附檔繳交區 選擇檔案 B063040001.cpp 放棄此檔 每個檔案限1500M，總合不得超過1500M

更多檔案 確定繳交 不作答離開