CSE108
LW 02

- **Using mobile phones, flash disks, internet and any other record or communication media is strictly forbidden during lab sessions. Throughout a lab session, all such media must be kept turned off and in a closed environment. Violation of this rule is punished with a grade 0, -100 or worse. Before doing anything else, make sure that your computer is not attached any such media.**
- **Make sure that you have deleted all of your work PARMANENTLY before leaving the first sessions.**

PART-I (2 Points)

Write a C program which evaluates the first four terms of the following function for a user defined variable x

$$f(x) = -\sum_{n=1}^{\infty} \frac{x^n}{n} + \frac{1}{2} = -x - \frac{x^2}{2} - \frac{x^3}{3} \ldots + \frac{1}{2}$$

Part-II (2 Points)

Write a C program which calculates the total profit of a dealer, who buys and sells 3 different goods. His purchase information is in an input text file, 'purchases.txt' and has the following format:

<item code1(a letter)> <item count> <unit purchase price1>
<item code2(a letter)> <item count> < unit purchase price2>
<item code3(a letter)> <item count> < unit purchase price3>

His selling information is in an input text file, 'sellings.txt' and has the following format:

<item code1> <item count> <unit selling price1>
<item code2> <item count> < unit selling price2>
<item code3> <item count> < unit selling price3>

Your code should create an output text file 'profit.txt' indicating profit from each item and the total profit with 2 digit precision.
Assume that the items purchased is not more than the items sold and the remaining items in the dealer are worthless.

A sample content for ‘purchase.txt’:

```
D       20       1.5
E       100     0.22
A       100     1
```

A sample content for ‘sellings.txt’:

```
The profit
```

Content of ‘profit.txt’ should be:

```
The profit for item D is   0.00TL.
The profit for item E is  -7.00TL.
The profit for item A is 20.00TL.
Total profit is 13.00TL.
```

Part-III (Bonus - 1 Point)

Write a function to evaluate 1 term of ‘f’ in part1 with the prototype below:

double get1Term(double x, int termNumber)

Using this function, evaluate ‘f’ with 4 terms again.