

## Lab Cycle 2

- A) Write a C program to state whether a student has passed in CP exam or not(1M)  
(Hint: Pass Mark=40)
- B) Write a program to display even numbers up to 100 using for statement(1M)
- C) Write a program to display the numbers 1 to 10 in reverse order using while statement(1M)
- D) Write a program to read Formative Assessment marks of students of your class and display the average marks(1M)  
[Hint: Formative Assessment marks are available in moodle]
- E) Let us assume that your class roll numbers start at 1 and end at 60. The first 30 students i.e. students with roll numbers 1 to 30 were selected for Phase1 of Finishing School and next 30 students i.e. students with roll numbers 31 to 60 were selected for Phase2 of Finishing School.  
Write a program to declare to which phase of the Finishing School you belong using *Switch Statement* (2M)
- F) Write a C program to compute the factorial of a given number (2M)

Problem Statement:

Write a C program to find the factorial of a given integer

Analysis:

...

Design/Implementation:

...

Implementation:

...

Testing:

...

**G) Write a program to generate multiplication table of a given number(2M)**

**H) Write a C program to find the series of prime numbers in the given range (4M)**

Problem Statement:

To write a C program to generate prime numbers up to a given number

Analysis:

...

Design/Implementation:

...

Implementation:

...

Testing:

...

**I) Write a C program to generate the Fibonacci numbers in the given range (4M)**

Problem Statement:

To write a C program to generate Fibonacci numbers up to a given number

Analysis:

...

Design/Implementation:

...

Implementation:

...

Testing:

...

**J) Write a C program to check whether the given number is a palindrome (4M)**

Problem Statement:

To write a C program to check whether the given number is palindrome or not

Analysis:

...

Design/Implementation:

...

Implementation:

...

Testing:

...

**K) [Case Study]**

A Manufacturing company has classified its executives into four levels for the benefit of certain perks. The levels and corresponding perks are shown as follows:

Level	Perks	
	Conveyance Allowance	Entertainment Allowance
1	1000	500
2	750	200
3	500	100
4	250	-

An executive's gross salary includes basic pay, house rent allowance at 25% of basic pay and other perks. Income tax is withheld from the salary on a percentage basis as follows:

Gross Salary	Tax Rate
Gross<=2000	No Tax Deduction
2000<Gross<=4000	3%
4000<Gross<=5000	5%
Gross>5000	8%

Write a program that will read an executive's job number, level number, and basic pay and then compute the net salary after withholding income tax (3M)

**[Hint:**

Gross Salary=Basic Pay + House Rent Allowance + Perks

Net Salary=Gross Salary - Income Tax]