



الاجابة لخمسـة اسئلة فقط

Q1:

A: Write C++ program to read a number and check if it's prime, if it's so print it, add it to a total, and decrement it by 2 (5 Marks)

B: Write C++ program to find the summation of the following series:

$$\sum_{i=1}^n i^2 = 1^2 + 2^2 + 3^2 + \dots + n^2$$

Q2:

A: Write C++ program to find the factorial of n:

$$n! = n * n-1 * n-2 * n-3 * \dots * 2 * 1$$

B:

Write C++ program to print the following figure:

```
  1
 3 3 3
5 5 5 5 5
7 7 7 7 7 7 7
9 9 9 9 9 9 9 9
7 7 7 7 7 7 7
5 5 5 5 5
3 3 3
1
```

Q3:

A: Write a function to find the largest integer among three integers entered by the user in the main function.

B: Write a C++ program, using function, which reads an integer value (T) representing time in seconds, and converts it to equivalent hours (hr), minutes (mn), and seconds (sec), in the following form:  
hr : mn : sec

i.e.:

Input: 4000

Output: 1 : 6 : 40

*Q4:*

*A:* Write C++ program, using function, to calculate the squared value of a number passed from main function, use this function in a program to calculate the squares of numbers from 1 to 10. (5 Marks)

*B:* The Fibonacci Series is: 0, 1, 1, 2, 3, 5, 8, 13, 21, ... It begins with the terms 0 and 1 and has the property that each succeeding term is the sum of the two preceding terms. Write a C++ program, using function, to calculate the nth Fibonacci number. (5 Marks)

*Q5:*

*A:* Write a C++ program, using function, to counts lowercase letter in a 20 letters entered by the user in the main program. (5 Marks)

*B:* Write C++ program, without function, to inverse an integer number: (5 Marks)

For example: 765432    234567

*Q6:*

*A:* Write C++ program, to find the minimum value in array of 8 numbers. (5 Marks)

*B:* Explain the following functions (using example): (5 Marks)

1- A atoi ( a )

2- strcmp ( string1, string2 )

3- cin.getline ( str, 10 )

*- Good Luck -*

*Lecturer*

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