Programming Fundamentals Workshop

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| Assignment Detail | |
| Note: | **Code should be Proper commented and indented.** |

**Question 1: Write a Program that will take a number as input from the user and will display its table.**

Sample Output

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| --- |
| Enter a number: 5  5 x 1 = 5  5 x 2 = 10  5 x 3 = 15  5 x 4 = 20  5 x 5 = 25  5 x 6 = 30  5 x 7 = 35  5 x 8 = 40  5 x 9 = 45  5 x 10 = 50 |

**Question 2: write a program that takes an input from user and print the entire odd and even no’s that come between 1 till that number**

Sample Output

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| --- |
| Enter number: 10  Even no’s : 5  Odd No’s : 5 |

**Question 3: Write a program that will calculate the factorial of number entered by the user using loops.**

Sample Output

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| --- |
| Enter number: 6  Your factorial is: 720 |

**Question 4: Write a program that will take ‘n’ numbers and print their average using loops.**

Sample Output

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| --- |
| Enter total numbers: 5  Enter number 1: 10  Enter number 2: 12  Enter number 3: 45  Enter number 4: 33  Enter number 5: 12  Average is: 22.4 |

**Question 5: write a program that will find the range of given numbers using loops.**

Sample Output

|  |
| --- |
| Enter total numbers: 5  Enter number 1: 10  Enter number 2: 12  Enter number 3: 45  Enter number 4: 33  Enter number 5: 12  Range is: 45-10 = 35 |

**Question 6: Write a Program that will generate the following output using loops**

Sample Output

|  |
| --- |
| Enter a number: 5  \*  \*\*  \*\*\*  \*\*\*\*  \*\*\*\*\*  \*\*\*\*  \*\*\* \*\* \* |

**Question 7: Write a program that prompts the user to input a number. The program determines and prints twin primes till that number in the format shown below. Use only what we have learned so far in the class.**

***Hint: A pair of prime numbers that differ by 2 (successive odd numbers that are both Prime numbers) is called twin primes. e.g., (3, 5), (5, 7), (11, 13),…***

Sample Output

|  |
| --- |
| Enter the upper limit: 100  The twin primes from 1 till 100 are:  3, 5  5, 7  11, 13  17, 19  29, 31  41, 43  59, 61  71, 73 |

**Question 8: Write a program that will generate Fibonacci series from 0 to the number entered by the user using loops.**

Sample Output

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| --- |
| Enter a Number: 89  The generated Fibonacci series is: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89 |

**Bonus Question:**

**Write a program that reads a number from console and prints it as the product of prime numbers. The**

***e.g., 90 = 2 x3 x 3 x5***

***100 = 2 x 2 x 2 x 5 x 5***

Sample Output

|  |
| --- |
| Enter a number: 200  200 expressed as product of prime numbers is:  2 x 2 x 2 x 5 x 5 |

Sample Output

|  |
| --- |
| Enter a number: 19  19 expressed as product of prime numbers is:  19 |