

# EDUCATE PAKISTAN

## PROGRAMMING IN C++

### - ASSIGNMENT 04 -

Each Question carries 5 Marks

#### Question No 1:

Create a program that takes two inputs from the user. The first input is the table no and the second input is the no up to which table is required. See sample output for better understanding.

Sample output:

```
Enter the table no and the limit: 5 7
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
Press any key to continue . . .
```

```
Enter the table no and the limit: 23 21
23 x 1 = 23
23 x 2 = 46
23 x 3 = 69
23 x 4 = 92
23 x 5 = 115
23 x 6 = 138
23 x 7 = 161
23 x 8 = 184
23 x 9 = 207
23 x 10 = 230
23 x 11 = 253
23 x 12 = 276
23 x 13 = 299
23 x 14 = 322
23 x 15 = 345
23 x 16 = 368
23 x 17 = 391
23 x 18 = 414
23 x 19 = 437
23 x 20 = 460
23 x 21 = 483

Press any key to continue . . .
```

## Question No 2:

Create a program that asks user for a number. Print the natural numbers up to n. See sample output:

Sample Output:

```
Enter the Number:20
The Natural numbers up to 20 are:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Press any key to continue . . .
```

### Question No 3:

Create a program that takes an input from the user. Then find the sum of all the digits from 1 to n. Your output should be exact same as the sample output

Sample Output:

```
Enter the Number:5
1 + 2 + 3 + 4 + 5 = 15

Press any key to continue . . .
```

```
Enter the Number:20
1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20 = 210

Press any key to continue . . .
```

```
Enter the Number:111
1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20 + 21 + 22 + 23 + 24 + 25 + 26 +
27 + 28 + 29 + 30 + 31 + 32 + 33 + 34 + 35 + 36 + 37 + 38 + 39 + 40 + 41 + 42 + 43 + 44 + 45 + 46 + 47 + 48 + 49 + 50 +
51 + 52 + 53 + 54 + 55 + 56 + 57 + 58 + 59 + 60 + 61 + 62 + 63 + 64 + 65 + 66 + 67 + 68 + 69 + 70 + 71 + 72 + 73 + 74 +
75 + 76 + 77 + 78 + 79 + 80 + 81 + 82 + 83 + 84 + 85 + 86 + 87 + 88 + 89 + 90 + 91 + 92 + 93 + 94 + 95 + 96 + 97 + 98 +
99 + 100 + 101 + 102 + 103 + 104 + 105 + 106 + 107 + 108 + 109 + 110 + 111 = 6216

Press any key to continue . . .
```

### Question No 4:

Create a program that takes input form the user and check if the given number is a prime number. (A prime number is the one which is divisible only on its own or 1).

Sample Output:

```
Enter the Number:17
The number is a prime number

Press any key to continue . . . █
```

```
Enter the Number:12
The number is not a prime number

Press any key to continue . . . █
```

#### Question No 5:

Create a program which takes input from the user and then sort out the odd numbers and even numbers and print them out. Also print the sum of odd numbers and even numbers. **Use while or do-while loop.**

Sample Output:

```
Enter the Number:20
Odd Numbers are:
1
3
5
7
9
11
13
15
17
19
Sum of Odd Numbers is 100
Even Numbers are:
2
4
6
8
10
12
14
16
18
20
Sum of Even Numbers is 110
Press any key to continue . . . █
```

```
Enter the Number:11
Odd Numbers are:
1
3
5
7
9
11
Sum of Odd Numbers is 36
Even Numbers are:
2
4
6
8
10
Sum of Even Numbers is 30
Press any key to continue . . .
```

#### Question No 6:

Create a program that takes input from the user. Now starting from 1 print the sum of a number and the next number. See sample output for better understanding. **Use while loop.**

Sample Output:

```
Enter the Number: 7
1 + 2 = 3
2 + 3 = 5
3 + 4 = 7
4 + 5 = 9
5 + 6 = 11
6 + 7 = 13
The sum of the above series is: 48
Press any key to continue . . .
```

```
Enter the Number: 20
1 + 2 = 3
2 + 3 = 5
3 + 4 = 7
4 + 5 = 9
5 + 6 = 11
6 + 7 = 13
7 + 8 = 15
8 + 9 = 17
9 + 10 = 19
10 + 11 = 21
11 + 12 = 23
12 + 13 = 25
13 + 14 = 27
14 + 15 = 29
15 + 16 = 31
16 + 17 = 33
17 + 18 = 35
18 + 19 = 37
19 + 20 = 39
The sum of the above series is: 399
Press any key to continue . . .
```

----- BEST OF LUCK -----