

1. Print the following shapes using **loop(s)**

```
1 *****
12 ****
123 ***
1234 **
12345 *
123456
```

```
12345 &
1234 &&
123 &&&
12 &&&&
1 &&&&&
&&&&&&
```

```
@
@ @
@  @
@   @
@    @
@ @ @ @ @
```

2. Write a program to generate the following output (**in the given layout**) using **loop(s)**.

1	10	11	20	21	30
2	9	12	19	22	29
3	8	13	18	23	28
4	7	14	17	24	27
5	6	15	16	25	26
6	5	16	15	26	25
7	4	17	14	27	24
8	3	18	13	28	23
9	2	19	12	29	22
10	1	20	11	30	21

3. Write a program that takes the height and width of a square and print the box of that height and width with alphabet 'B'. E.g. if user presses **5** for height and **8** for width, your program should print the following. (**Restrict the user such that height or width should not be equal to zero**).

```
B B B B B B B B
B B B B B B B B
B B B B B B B B
B B B B B B B B
B B B B B B B B
```

4. Develop a program that inputs 10 different integers within a **while loop** and displays the **largest as well as smallest**. (**Repetition of numbers is not allowed**).
5. Write a program that asks the base and exponent (power) from user and print the result using **do while loop**. e.g. If base is **2** and exponent is **3**, so **2*2*2** is **8**.

- Using **for loop**, print the result of **multiplication of all odd numbers from 1 to 20** and the result of **sum of all even numbers from 1 to 100**.
- Print the following shapes using **loop(s)**

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E.g. if the array1 has 1 2 3 4 5 6 7 8 9 10 stored and array2 has 11 12 13 14 15 16 17 18 19 20 stored then array three will have 1 11 2 12 3 13 4 14 5 15 6 16 7 17 8 18 9 19 10 20 stored.

14. Initialize integer array with 10 random values. Then print the second smallest as well as second largest element from that array. (E.g. 23 7 2 56 3 8 9. here second largest is 23 and second smallest is 3). your code might not work for 1 2 2 2 2 5 5 8 8 8 8, second largest is 5 and second smallest is 2. You have to check ur program with many test cases.
15. Declare an array and take input from the user in that array, ask the user to enter an integer and you have to print index number of that integer. if that number exists 2 or more time at different indexes then u have to print all indexes having that integer input.
16. Declare array and take input from the user to fill that array, take two integer input from the user, you have to find indexes of those numbers and then exchange those number. if 45 comes at index 3 and 67 comes at index 9. After exchange, index 3 should contain 67 and index 9 should contain 45.
17. Declare and take input from the user in two arrays a and b, you have to print all the numbers which exist in both the arrays.
18. Declare and take input from the user in character array, and you have to print total number of vowels in that array (e.g. d t i o o a r w h s h w q n x b , total number of vowels are 4 (as i o o a)).
19. Take two arrays of character type and take input from the user, you have to exchange the elements of both arrays. array A should contains elements of B, and B should contain the elements of A.