

Assignment on Loops :

- Write a C program which will scan integer number `int limit` from the user and print the series of the number from 1 to limit using the for loop.
- Write a C program which will scan integer number `int limit` from the user and print the series in reverse number from limit to 1 , using the for loop.
- Write a C program which will scan integer number `int limit` from the user and print the addition of the series from 1 to limit using the for loop.
- Write a C program which will print the A to Z using the for loop.
- Write a C program which will scan integer number `int limit` from the user and print sum of the even number and sum of odd numbers in the series from 1 to limit using the for loop.
- Write a C program which will scan two integer numbers `int x` , `int n` from the user and calculate the nth root of the number x Where ,nth root means calculating the x raised to the power of n i.e., if x should be multiplied with x by n times. For example : `int x = 2` and `n = 4` then , the answer is equal to $2 \times 2 \times 2 \times 2 = 16$. Calculate the Exponential of the number x and display the result.
- Write a C program which will scan one integer number `n (int n)` from the user and print the table of that number using a for loop.

Write a C program which will print the multiplication table using a for loop.

Output should look similar to this :

```
1. 1 * 1 = 1 , 2 * 1 = 2 ..... 10 * 1 = 10.
2. 1 * 2 = 2 , 2 * 2 = 4 ..... 10 * 2 = 20.
3. ....
4. ....
5. 1 * 10 = 1 , 2 * 10 = 20 ..... 10 * 10 = 100.
```

- Write a C program to calculate the factorial of a given number `N` using a `for` loop.

Requirements:

- **Input:** An integer `N` (e.g., `N = 4`).
- **Output:** The factorial of `N` (e.g., for `N = 4`, the output should be `24` because $4! = 4 * 3 * 2 * 1 = 24$).