Winter camps Days 1

Student name : Sweta singh   **UID- 22BCS10664**
Branch: BE_CSE   **Section/Group:** KPIT-901 A
 Date of Performance: 19/12/2024

Question - **Sum of Natural Numbers up to N**

Code -

```cpp
#include <iostream>
int main() {
    int n;
    std::cout << "Enter the value of N: ";
    std::cin >> n;
    int sum = 0;
    for (int i = 1; i <= n; ++i) {
        sum += i;
    }
    std::cout << "Sum of natural numbers up to " << n << " is: " << sum << std::endl;
    return 0;
}
```

Output –

```
Enter the value of N: 5
Sum of natural numbers up to 5 is: 15
```

Question 2 : Count Digits in a Number

Code - #include <iostream>

```cpp
int countDigits_iterative(long long n) {
    int count = 0;
    if (n == 0) {
        return 1;
    }
    while (n != 0) {
        n /= 10;
        count++;
    }
    return count;
}

int main() {
    long long number;
    std::cout << "Enter a number: ";
    std::cin >> number;
    std::cout << "Number of digits (iterative): " << countDigits_iterative(number) << std::endl;
    return 0;
}
```

Output -

```
Enter a number: 12345
Number of digits (iterative): 5
```

Question 3: Function Overloading for Calculating Area**.**

Code -

```cpp
#include<iostream>
using namespace std;
float AreaOfCircle(float r);
int AreaOfCircle(int r);
int main()
{int rad;
   cout<<"Enter the Radius of Crircle: ";
   cin>>rad;
   cout<<"The Are of the Cirlcle: "<<AreaOfCircle(rad);
}
float AreaOfCircle(float r)
{
   int area=0;
   area=2*3.1456*r*r;
   return area;
}
int AreaOfCircle(int r)
{
   int area=0;
   area=2*3.1456*r*r;
   return area;
}
```

Output :

```
Enter the Radius of Crircle: 5

  The Are of the Cirlcle: 157
```

Question 4: Print Multiplication Table of a Number.

Code - #include <iostream>

using namespace std;

int main() {

int n;

cout << "Enter a positive integer: ";

cin >> n;

for (int i = 1; i <= 10; ++i) {

    cout << n << " * " << i << " = " << n * i << endl;

  }

  return 0;

}

Output –

```
Enter a positive integer: 8

 8 * 1 = 8

 8 * 2 = 16

 8 * 3 = 24

 8 * 4 = 32

 8 * 5 = 40

 8 * 6 = 48

 8 * 7 = 56

 8 * 8 = 64

 8 * 9 = 72

 8 * 10 = 80
```

Question 5: program to print all Even and Odd numbers from 1 to N.

Code:
```cpp
#include <bits/stdc++.h>
using namespace std;
void printEvenNumbers(int N)
{
cout << "Even: ";
for (int i = 1; i <= 2 * N; i++) {
if (i % 2 == 0)
            cout << i << " ";
}
}
void printOddNumbers(int N)
{

cout << "\nOdd: ";
for (int i = 1; i <= 2 * N; i++) {
   if (i % 2 != 0)
            cout << i << " ";
}
} int main()
{

int N = 5;
printEvenNumbers(N);
printOddNumbers(N);
   return 0;
}
```

Output :

> **Even: 2 4 6 8 10**
>
> **Odd: 1 3 5 7 9**