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| Image result for latest marwadi university logo | **Marwadi University**  **Faculty of Technology**  **Department of Information and Communication Technology** | |
| **Subject: DSC  (01CT0308)** | Aim: Simulation of recursion. using either sum of the first n numbers or factorial of given number. | |
| **Experiment No: 5** | **Date: 21- 10 - 2023** | **Enrolment No:-** 92200133030 |

**Experiment – 5**

**Objective:** Simulation of recursion. using either sum of the first n numbers or factorial of given number.

**Code :-**

#include<iostream>

using namespace std;

int Sum(int n) {

if(n == 1) {

return n;

}

else {

return n + Sum(n-1);

}

}

int Factorial(int n) {

if(n == 1 || n == 0) {

return 1 ;

}

else {

return n\*Factorial(n-1) ;

}

}

int main() {

int N ;

int ans ;

int choice ;

cout << "1) Sum Of First N Natural Number " << endl ;

cout << "2) Find A Factorial Of N" << endl;

cout << "Enter Your Choice How You Want to Demonstrate The Recursion :- " ;

cin >> choice ;

if ( choice == 1) {

cout << "Enter A The Value Of N :- " << " " ;

cin >> N ;

ans = Sum(N);

cout << "The Sum Of First " << N << " Number Is " << ans << endl ;

}

else {

cout << "Enter A The Value Of N :- " << " " ;

cin >> N ;

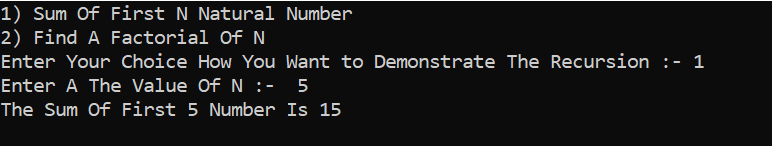
ans = Factorial(N);

cout << "The Factorial Of " << N << " Is " << ans << endl ;

}

}

**Output:**

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