Practical No.

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Aim :- Write a C program to calculate the factorial of 'n' numbers using the concept of Recursion.

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Theory :- Recursion is a programming and mathematical concept where a function call itself either directly to solve a smaller instance of Problem. It is a powerful & elegant technique that is widely used in various programming Langauges.

Program code :-

```
#include<stdio.h>
int fact(int n)
{
  if(n==0)
  {
    return 1;
  }
  else
  {
    return(n* fact(n-1));
  }
}
```

```
void main ()
{
 int num, f;
 printf("Enter any Number :\n");
 scanf("%d", &num);

 f = fact(num);

 printf("\n The Factorial of %d is %d",
                    num, f);
}
```

Algorithm:- Step 1: Start
Step 2: Read number num
Step 3: call factorial(int n)
Step 4: Print(factorial f)
Step 5: Stop

fact(int n)
Step 1: If n==1 then return 1
Step 2: Else
f = n * factorial(n-1)
Step 3: Return f

Conclusion :- Hence according to given theory, the code & it's corresponding output are valid.

Output :- enter any number : 6
The factorial of 6 is 720.

Conclusion :- Hence according to given theory, the code & it's corresponding output are valid.