

EXERCISE-3

3. Write a C program to find factorial of a given number without using recursion.

AIM: To write a C program to find the factorial of a given number without using recursion.

Algorithm:

1. Start the program.
2. Input a number n.
3. Initialize fact = 1.
4. Loop from i = 1 to n:
 - Multiply fact = fact * i.
5. After the loop ends, print the factorial value.
6. End the program.

Program code:

```
#include <stdio.h>
```

```
int main() {
```

```
    int n, fact = 1;
```

```
    printf("Enter a number: ");
```

```
    scanf("%d", &n);
```

```
    if (n < 0) {
```

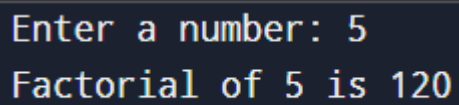
```
        printf("Factorial is not defined for negative numbers.\n");
```

```
        return 0;
```

```
    }
```

```
for (int i = 1; i <= n; i++) {  
    fact *= i;  
}  
  
printf("Factorial of %d is %d\n", n, fact);  
  
return 0;  
}
```

Input and Output:



```
Enter a number: 5  
Factorial of 5 is 120
```

Result:

The program calculates and displays the factorial of the given number using an iterative method (without recursion).