29/07/2020

Q write a program to print the factorial of nth entered number.

```
#Include<stdio.h>
void main(){
    Int n, fact=1;
    printf("Enter a No");
    scanf("%d",&n);
    for(Int i=n; i>=1; i--){
        fact = fact*i;
    }
    printf("%d", fact);
}
```

- Dry Run

variables			conditions	statements	incr/decr
num	fact	i	i>=1	fact = fact * i	i--
5	1	5	5>=1	5	
	5	4	4>=1	20	
	20	3	3>=1	60	
	60	2	2>=1	120	
	120	1	1>=1	120	
	120	0	0>=1 X		

Q. Write a program that accepts an integer from the user and prints all of its perfect divisors.

```
#include<stdio.h>
void main(){
    int n;
    printf("Enter a number");
    scanf("%d",&n);
    printf("\n perfect divisors of %d are:", n);
    for(int i=1; i<=n; i++){
        if(n%i==0){
            printf("%d ", i);
        }
    }
}
```

- Dry Run

variables	conditions	statements	print/decr
i	i<=10	if(n%i==0)	if(i)	i++
1	1<=10	10%1==0	1	2
2	2<=10	10%2==0	2	3
3	3<=10	10%3==0 X	-	4
4	4<=10	10%4==0 X	-	5
5	5<=10	10%5==0	5	6
6	6<=10	10%6==0 X	-	7
7	7<=10	10%7==0 X	-	8
8	8<=10	10%8==0 X	-	9
9	9<=10	10%9==0 X	-	10
10	10<=10	10%10==0	10	11
11	11<=10 X			