Day : Loops and Iterations (5-8-2025)

1. Write a program to print numbers from 1 to 100

IPO

Input : get a value as input to print numbers from 1 to 100

Process : to get a value from 1 to 100 using the condition number<=100

Output :output the number that is from 1 to 100

```
#include<stdio.h>
void main()
{
   int n=5,i;
   for(i=1;i<=n;i++)
   {
      printf("%d",i);
   }
}
```

```
Compiled Successfully. memory: 1536 time: 0 exit code: 6
12345
```

2.Write a program to print even numbers from 1 to 50.

IPO

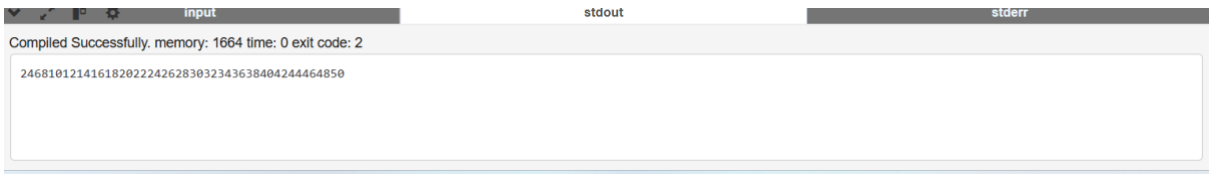
Input : to get a value as input

Process : to print even numbers from 1 to 50 using the even condition

a%2==0 .

Output : output the number that is from 1 to 50

```
#include<stdio.h>
Void main()
{
   int n;
   for(n=1;n<=50;n++)
   if (n%2==0)
   {
      printf("%d",n);
   }
```



3.Write a program to find the factorial of a number

IPO

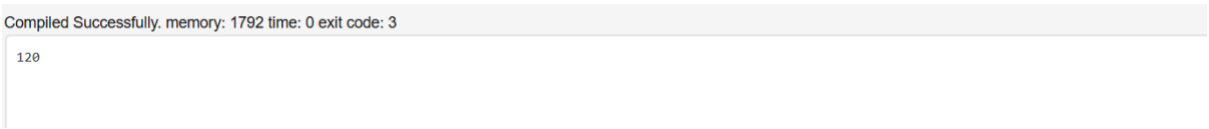
Input : get a value as input

Process : to program the factorial of a number n=5! That is from 1,2,3,4,5

Using the condition f=f*i

Output : output the factorial of number

```
#include<stdio.h>
void main ()
{
   int a=5,i,f=1;
   for(i=1;i<=a;i++)
   {
      f=f*i;
   }
   printf("%d",f);
}
```



4. Write a program to calculate the sum of digits of a number.

IPO

Input : get a value as input

Process : to get the sum of digits of a number using the condition

Sum=sum+i

Output :output the the sum of digits of a number

```
#include<stdio.h>
void main()
{
   int n=46,r,count=0,sum=0;
   while(n>0)
   {
      r=n%10;
      sum=sum+r;
      count++;
      n=n/10;
   }
      printf("%d",sum);
}
```

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```
10
```

5. Write a program to reverse a number.

IPO

Input : get a value as input

Process : to program to reverse a number while n!=0

And rev=rev*10+r

Output : output the value of reverse a number

```
#include<stdio.h>
void main()
{
   int n=125,r,rev=0;
   while(n!=0)
   {
      r=n%10;
      rev=rev*10+r;
      n=n/10;
   }
      printf("%d",rev);
 }
```

```
Compiled Successfully. memory: 1664 time: 0 exit code: 3
521
```

6. Write a program to check whether a number is a palindrome.

IPO

Input : to get a number as input

Process : to program the number is a palindrome while n>0

and rev=rev+r*c

Output :output the number palindrome

```
#include<stdio.h>
void main()
{
   int r,n,on,rev=0,c=100;
   scanf("%d",&on);
   n=on;
   while(n>0)
   {
      r=n%10;
      rev=rev+r*c;
      n=n/10;
      c=c/10;
   }
   printf("%d",rev);
   if(rev==on)
   printf(" pallindrome");
   else
```

```
    printf("not pallindrome");
}
```

```
Compiled Successfully. memory: 1664 time: 0 exit code: 0
202 pallindrome
```

7. Write a program to print multiplication table of a number.

IPO

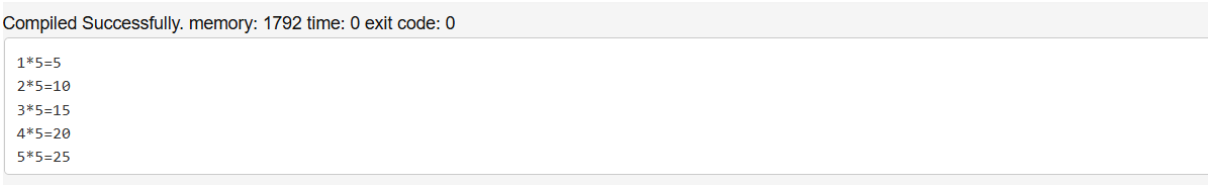
Input : get a value as input

Process : to print multiplication table of a number using the condition

i<=200,n =5

Output : output the number of multiplication table

```
#include<stdio.h>
void main()
{
   int i,n=5;
   scanf("%d",&n);
   for(i=1;i<=200;i++)
   {
      printf("%d*%d=%d\n",i,n,i*n);
   }
}
```



8. Write a program to count the number of digits in a number.

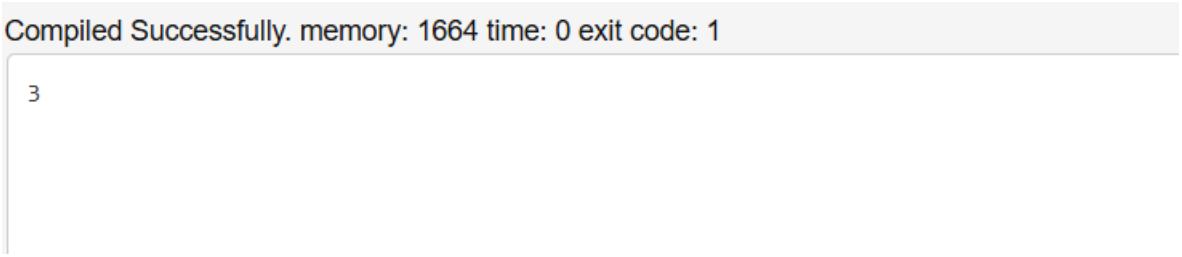
IPO

Input : get a value as input

Process : to program to count the number of digits in a number using condition n>0,count =0.

Output : output the number of digits

```
#include<stdio.h>
void main()
{
   int n=125,r,count=0;
   while(n>0)
   {
      r=n%10;
      count++;
      n=n/10;
   }
      printf("%d",count);
 }
```



9. Write a program to print the Fibonacci series up to n terms.

IPO

Input : get a value as input

Process : to print the Fibonacci series upto n =5 by considering f=s,s=t using the condition t= f+s

Output : output the value of Fibonacci series

```
#include<stdio.h>
void main()
{
   int f=0,s=1,t,i;
   printf("%d%d",f,s);
   for(i=1;i<=5;i++)
   {
      t=f+s;
      printf("%d",t);
      f=s;
      s=t;
   }
```

}

10. Write a program to calculate the sum of the first n natural numbers.

IPO

Input : to get a input say a

Process : to calculate the sum of the first n natural numbers by using the condition sum=sum+I as sum =0

Output : output the sum of first n natural numbers

```
#include<stdio.h>
void main ()
{
   int a=5,sum=0,i;
   for(i=1;i<=a;i++)
   {
      sum=sum+i;
   }
   printf("%d",sum);
}
```

Compiled Successfully. memory: 1792 time: 0 exit code: 2

```
15
```