LOOP PROGRAMS

```
#include <stdio.h>
int main()
{
int num,count=1;
printf("enter a positive number\n");
scanf("%d",&num);
while(count<=num)
{
   printf("%d\n",count);
   count++;
}
return 0;
}
```

```
#include <stdio.h>
int main()
{
int num;
printf("enter a positive number\n");
scanf("%d",&num);
```

```
while(num)
{
   printf("%d\n",num);
   num--;
}
return 0;
}
```

```
#include <stdio.h>
int main()
{
int num;
printf("enter a positive number\n");
scanf("%d",&num);
while(num)
{
   printf("%d\n",num);
   num--;
}
return 0;
}
```

```
#include <stdio.h>
int main()
{
   int i=2;
   printf("\n\n\n\n");
   while(i<=100)
   {
      printf("\t%d",i);
      i=i+2;
   }
   return 0;
}

#include <stdio.h>
int main()
{
   int i=1;
   printf("\n\n\n\n");
   while(i<=100)
   {
      printf("\t%d",i);
      i=i+2;
```

```
    }
    return 0;
}

#include <stdio.h>
int main()
{
int num,count=1,sum=0;
printf("enter a positive number\n");
scanf("%d",&num);
printf("sum of natural numbers from 1 to %d is\n",num);
while(count<=num)
{
    sum=sum+count;
    count++;
}
printf("\nsum=%d\n",sum);
return 0;
}

#include<stdio.h>
int main()
```

```
{
   int num,count=1,sum=0;
   printf("enter the number\n");
   scanf("%d",&num);
   while(count<=num)
   {
      if(count%2==0)
      {
         sum= sum+count;
      }
      count++;
   }
   printf("sum of even no from 1to %d is %d\n",num,sum);
   return 0;
}

#include<stdio.h>
int main()
{
   int num,count=1,sum=0;
   printf("enter the number\n");
   scanf("%d",&num);
```

```
    while(count<=num)
    {
        if(count%2!=0)
        {
            sum= sum+count;
        }
        count++;
    }
    printf("sum of odd no  is %d\n",sum);
    return 0;
}

#include<stdio.h>
int main()
{
    int num,count;
    printf("enter a number");
    scanf("%d",&num);
    printf("multiplication table for %d is\n",num);
    for(count=1;count<=10;count++)
    {
        printf("%d*%d=%d\n",num,count,(num*count));
```

```
    }
    return 0;
}

#include<stdio.h>
int main()
{
    int num,count=0;
    printf("enter the number");
    scanf("%d",&num);
    while(num!=0)
    {
        num=num/10;
        count++;
    }
    printf("number of digit is %d",count);
    return 0;
}

#include<stdio.h>
int main()
{
```

```
    int n;
    printf("enter a number");
    scanf("%d",&n);
    printf("last digit is%d",n%10);
    while(n>10)
    n=n/10;
    printf("\nfirst digit is%d",n);
    return 0;
}

#include<stdio.h>
int main()
{
    int n,last,sum;
    printf("enter a number");
    scanf("%d",&n);
    last=n%10;
    while(n>9)
    {
    n=n/10;
    }
    sum=n+last;
```

```
    printf("sum of first and last digit=%d",sum);
    return 0;
}

#include<stdio.h>
int main()
{
    int sum=0,r,num;
    printf("enter number");
    scanf("%d",&num);
    while(num>0)
    {
        r=num%10;
        sum=sum+r;
        num=num/10;
    }
    printf("sum of number digit=%d",sum);
}

#include<stdio.h>
int main()
{
```

```
    int n,d,p=1;
    printf("enter the number");
    scanf("%d",&n);
    while(n!=0)
    {
        d=n%10;
        p=p*d;
        n=n/10;
    }
    printf("product=%d",p);
    return 0;
}

#include<stdio.h>
int main()
{
    int num,rev=0,rem;
    printf("enter number");
    scanf("%d",&num);
    while(num>0)
    {
        rem=num%10;
```

```
        rev=rev*10+rem;
        num=num/10;
    }
    printf("reverse num %d",rev);
}

#include<stdio.h>
int main()
{
    int n,r,sum=0,temp;
    printf("enter number");
    scanf("%d",&n);
    temp=n;
    while(n>0)
    {
        r=n%10;
        sum=(sum*10)+r;
        n=n/10;
    }
    if(temp==sum)
    {
        printf("no is palindrome");
```

```
    }
    else
    {
        printf("no is not palindrome");
    }
}

#include <stdio.h>
int main()
{
    long num;
    int digit,rem,count=0;
    printf("enter the number");
    scanf("%ld",&num);
    printf("enter the digit to be counted");
    scanf("%d",&digit);
    while(num!=0)
    {
        rem=num%10;
        if(rem==digit)
        count++;
        num=num/10;
```

```
    }
    printf("the digit %d present %d times",digit,count);
}
```

20)

```
#include<stdio.h>
int main()
{
    char ch;
    printf("enter any character");
    scanf("%c",&ch);
    printf("%d",ch);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int a,b,i,p=1;
    printf("enter a and b");
    scanf("%d%d",&a,&b);
    for(i=1;i<=b;i++)
    {
```

```
        p=p*a;
    }
    printf("power=%d",p);
    return 0;
}

#include<stdio.h>
int main()
{
    int num,count;
    printf("enter a no to find factors");
    scanf("%d",&num);
    printf("factors of %d are\n",num);
    for(count=1;count<=num;count++)
    {
        if(num%count==0)
        printf("%d\n",count);
    }
    return 0;
}

#include<stdio.h>
```

```
int main()
{
   int num,count,fact=1;
   printf("enter a no to find factorial");
   scanf("%d",&num);
   for(count=1;count<=num;count++)
   {
      fact=fact*count;
   }
   printf("factorial of %d is %d",num,fact);
   return 0;
}
```

```
#include<stdio.h>
int main()
{
   int n1,n2,hcf,count=1;
   printf("enter two no.");
   scanf("%d%d",&n1,&n2);
   while(count<=n1 &&count<=n2)
   {
      if(n1%count==0 && n2%count==0)
```

```
        {
            hcf=count;
        }
        count++;
    }
    printf("hcf of %d and %d is %d",n1,n2,hcf);
}

#include<stdio.h>
int main()
{
    int n1,n2,lcm,fact=1;
    printf("enter 2 number");
    scanf("%d%d",&n1,&n2);
    lcm=(n1>n2)?n1:n2;
    while(fact)
    {
        if(lcm%n1==0 && lcm%n2==0)
        {
            printf("lcm of %d and %d is %d",n1,n2,lcm);
            fact=0;
        }
```

```
        lcm++;
    }
}

#include<stdio.h>
int main()
{
    int n,i,count=0;
    printf("enter a no to check prime or not");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        if(n%i==0){
            count++;
        }
    }
    if(count==2){
        printf("no is prime");
    }
    else
    printf("no is not prime");
}
```

```
#include<stdio.h>
int main()
{
   int n,i,arm=0,r,c;
   printf("enter a no");
   scanf("%d",&n);
   c=n;
   while(n>0)
   {
      r=n%10;
      arm=(r*r*r)+arm;
      n=n/10;
   }
   if(c==arm)
   printf("armstrong no");
   else
   printf("not a armstrong no");
}
```

fibonacci series

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

```
int main()
{
    int n,n1=0,n2=1,n3,i;
    printf("enter the limit");
    scanf("%d",&n);
    printf("\n%d%d",n1,n2);
    for(i=2;i<n;++i){
        n3=n1+n2;
        printf("%d\n",n3);
        n1=n2;
        n2=n3;
    }
    return 0;
}

#include<stdio.h>
int main()
{
    int i,n,sum=0;
    printf("enter a number");
    scanf("%d",&n);
    for(i=1;i<n;i++)
```

```
    {
        if(n%i==0)
        {
            sum=sum+i;
        }
    }
    if(sum==n)
    printf("perfect no");
    else
    printf("not a perfect no");
}

#include<stdio.h>
int main()
{
    int a,i;
    printf("enter a number to find prime factors");
    scanf("%d",&a);
    for(i=2;a>1;i++){
        while(a%i==0)
        {
            printf("%d\t",i);
```

```
            a=a/i;
        }
    }
}

#include<stdio.h>
int main()
{
    int num,temp,rem,count,fact,sum=0;
    printf("enter anumber\n");
    scanf("%d",&num);
    temp=num;
    while(num)
    {
        rem=num%10;
        count=1;
        fact=1;
        while(count<=rem)
        {
            fact=fact*count;
            count++;
        }
```

```
        sum=sum+fact;
        num=num/10;
    }
    if(temp==sum)
    {
        printf("%d is a strong number\n",temp);
    }
    else
    {
        printf("%d is not a strong number\n",temp);
    }
    return 0;
}
a
```