1) Write a c program to check whether the number is even or odd?

even or odd.c   Untitled2

```c
1    # include<stdio.h>
2    int main(){
3        int n;
4        printf("enter the value of n :\n");
5        scanf("%d",&n);
6        if(n%2==0){
7            printf("given number %d is even",n);
8        }
9
10       else{
11           printf("given number %d is odd",n);
12       }
13
14       return 0;
15
16   }
17
```

OUTPUT:

```
enter the value of n :
12
given number 12 is even
-----------------------------------
Process exited after 2.43 seconds with return value 0
Press any key to continue . . . |
```

```
enter the value of n :
23
given number 23 is odd
-----------------------------------
Process exited after 1.363 seconds with return value 0
Press any key to continue . . .
```

2) Write a c program sum of 50 numbers using for loop?

even or odd.c   sum of n numbers.c

```c
1    #include <stdio.h>
2    int main(){
3        int n,i,sum=0;
4        printf("enter the value of n:\n");
5        scanf("%d",&n);
6
7        for(i=0;i<=n;i++){
8            sum=sum+i;
9        }
10       printf("The sum of %d numbers is : %d",n,sum);
11
12       return 0;
13   }
```

OUTPUT:

```
enter the value of n:
50
The sum of 50 numbers is : 1275
--------------------------------
Process exited after 2.102 seconds with return value 0
Press any key to continue . . .
```

3) Write a c program for sum of even numbers using while loop?

```c
1   #include <stdio.h>
2   int main(){
3       int n,count=1,sum=0;
4       printf("enter the limit :\n");
5       scanf("%d",&n);
6       while (count<=n){
7           if (count%2==0){
8               sum = sum + count;
9           }
10          count++;
11      }
12      printf("the sum of numbers from 1 to %d is %d:\n",n,sum);
13      return 0;
14  }
```

OUTPUT:

```
enter the limit :
50
the sum of numbers from 1 to 50 is 650:

--------------------------------
Process exited after 3.263 seconds with return value 0
Press any key to continue . . .
```

4) Write a c program for reverse a given number?

```c
#include <stdio.h>
int main(){
    int n,r,i,sum=0;
    printf("enter the value of n:\n");
    scanf("%d",&n);
    for(i=n;n!=0;n=n/10){
        r=n%10;
        sum = sum*10+r;
    }
    printf("the reverse of a number %d is %d:\n",n,sum);

    return 0;
}
```

OUTPUT:

```
enter the value of n:
3456
the reverse of a number 0 is 6543:

------------------------------
Process exited after 7.159 seconds with return value 0
Press any key to continue . . .
```

5) Write a c program to check palindrome or not?

```c
#include <stdio.h>
int main(){
    int temp,n,r,sum=0;
    printf("enter the value of n:\n");
    scanf("%d",&n);
    temp=n;
    for(temp=n;n!=0;n=n/10){
        r=n%10;
        sum = sum*10+r;
    }
    if(temp==sum){
        printf("the given number is palidrome ");
    }
    else{
        printf("the given number is not palindrome ");
    }

    return 0;
}
```

OUTPUT:

```
enter the value of n:
121
the given number is palidrome
------------------------------
Process exited after 7.663 seconds with return value 0
Press any key to continue . . .
```

6) Write a program to check whether the number is armstrong or not?

```c
#include <stdio.h>
#include <math.h>
int main(){
    int n,temp,r,result=0,i=0;
    printf("enter the value of n:\n");
    scanf("%d",&n);
    temp=n;
    while (temp!=0){
        temp=temp/10;
        i++;
    }
    temp=n;
    while (temp!=0){
        r=temp%10;
        result +=pow(r,3);
        temp=temp/10;
    }

    if (result==n){
        printf("given number  is armstrong ");
    }
    else{
        printf("given number  is not armstrong ");
    }

    return 0;
}
```

OUTPUT:

```
enter the value of n:
371
given number  is armstrong
-------------------------------
Process exited after 4.736 seconds with return value 0
Press any key to continue . . . |
```

7) Write a program to find factorial of a number?

```c
#include <stdio.h>
int main(){
    int n,i,fact=1;
    printf("enter the value of n :\n");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        fact = fact*i;
    }
    printf("the factorial of a number %d is %d ",n,fact);

    return 0;
}
```

OUTPUT:

```
enter the value of n :
5
the factorial of a number 5 is 120
-------------------------------
Process exited after 1.274 seconds with return value 0
Press any key to continue . . .
```

8) Write a c program to find factorial with recursion ?

```c
#include <stdio.h>
#include <math.h>
int fact(int);
int main(){
    int n,x;
    printf("enter the value of n :\n");
    scanf("%d",&n);
    x=fact(n);
    printf("the factorial of a number %d is %d",n,x);
    return 0;
}
int fact(n){
    if (n==0){
        return (1);
    }
    else{
        return (n*fact(n-1));
    }
}
```

OUTPUT:

```
enter the value of n :
5
the factorial of a number 5 is 120
----------------------------------
Process exited after 1.055 seconds with return valu
Press any key to continue . . .
```

9) Write a c program to generate Fibonacci series?

```c
#include <stdio.h>
int main(){
    int  n,f1=0,f2=1,f3,i;
    printf("enter the value of n :\n");
    scanf("%d",&n);

    printf("fibonacci series  :\n %d %d",f1,f2);
    for(i=2;i<n;++i){
        f3=f1+f2;
        printf(" %d",f3);
        f1=f2;
        f2=f3;
    }

    return 0;
}
```

OUTPUT:

```
enter the value of n :
5
fibonacci series  :
 0 1 1 2 3
----------------------------------
Process exited after 0.604 seconds with return value 0
Press any key to continue . . .
```

10) Write a c program to generate Fibonacci series using recursion ?

```c
#include <stdio.h>
int fib(int);
int main(){
    int n,i=0,c;
    printf("enter the value of n :\n");
    scanf("%d",&n);
    printf("fibonacci series\n");

    for(c=1;c<=n;c++){
        printf("%d\n",fib(i));
        i++;
    }

    return 0;

}
int fib(n){
    if (n==0){
        return 0;
    }
    else if (n==1){
        return 1;
    }
    else{
        return(fib(n-1)+fib(n-2));
    }
}
```

OUTPUT:

```
enter the value of n :
5
fibonacci series
0
1
1
2
3
```