- **Write a program to check whether the user entered string is palindrome or not.**

Program:

```c
#include<stdio.h>
#include<string.h>
int main()
{
char str[100];
int i, n, flag;
flag=0;
printf("\n Please Enter any String : ");
gets(str);
n = strlen(str);
for(i=0; i<n; i++)
{
    if(str[i] != str[n-i-1])
    {
    flag = 1;
    break;
    }
}
if(flag==0)
{
    printf("\n %s is a Palindrome String", str);
}
else
{
printf("\n %s is not a palindrome String", str);
} return 0;
}
```

Output:

```
Please Enter any String : mom

mom is a Palindrome String
--------------------------------
Process exited after 5.698 seconds with return value 0
Press any key to continue . . .
```

- **Write a c program to check whether the user entered year is leap year or not.**

Program:

```c
#include<stdio.h>
#include<conio.h>
int main()
{
    int year;
    printf(" Enter a Year : ");
    scanf("%d", &year);
    if(year % 4 == 0){
        printf("%d is a leap year.", year);
    }
    else {
        printf("%d is not a leap year.", year);
    }
    return 0;
}
```

Output:

```
 Enter a Year : 2020
2020 is a leap year.
--------------------------------
Process exited after 5.59 seconds with return value 0
Press any key to continue . . .
```

- **Write a c program to check whether the user entered number is Armstrong or not.**

Program:

```c
#include<stdio.h>
#include<conio.h>
int main()
{
    int num, n, remainder, result =0;
    printf(" Enter a three-digit integer :");
    scanf("%d", &num);
    n = num;
    while (n!=0){
        remainder = n % 10;
        result += remainder * remainder * remainder;
        n/=10;
    }
    if (result==num)
    printf(" %d is an Armstrong number.", num);
    else
    printf(" %d is not an Armstrong number.", num);
    return 0;

}
```

Output:

```
Enter a three-digit integer :153
153 is an Armstrong number.
--------------------------------
Process exited after 4.671 seconds with return value 0
Press any key to continue . . .
```

- **Write a program to check whether the input number is prime or not.**

Program:

```c
#include<stdio.h>
#include<conio.h>
int main()
 {
  int n, i, c = 0;
  printf("Enter any number n:");
  scanf("%d", &n);
  for (i = 1; i <= n; i++) {
      if (n % i == 0) {
         c++;
      }
  }

  if (c == 2) {
  printf("n is a Prime number");
  }
  else {
  printf("n is not a Prime number");
  }
  return 0;
}
```

Output:

```
Enter any number n:5
n is a Prime number
--------------------------------
Process exited after 9.867 seconds with return value 0
Press any key to continue . . .
```