1.Write a c and C++ program to reverse a string.

```
= #include<stdio.h>
#include<string.h>
int main()
{
    char st[10]="abcdefgh";
    char st1[10]=" ";
    int n=strlen(st);
    int i;
    for(i=n-1;i>=0;i--)
    {
        st1[n-1-i]=st[i];
    }
    printf("%s",st1);
    return 0;
}
```

```
#include<iostream>
#include<string>
using namespace std;
int main()
{
   string st= ‘abcdefgh’;
   string st1;
   int n=st.length();
   int i;
   for(i=n-1;i>=0;i--)
    {
        st1=st1+st[i];
    }
cout<<st1;
return 0;
}
```

Output:-

hgfedcba

2.Configure a list & take 10 integers. show the elements. Take 2 more integers at the back side & 1 integer at the front side pop two elements at the back side. Show the list again.

=

```
#include<iostream>
#include<list>
using namespace std;
int main()
{
   list<int>number={};
```

```
  list<int>number1={};
  int i;
  for(i=0;i<=10;i++)
  {
     cout<<"Enter your value";
     cin>>i;
     number.push_back(i);
  }
    number1=number;
    for(int i:number)
    {
       cout<<i<<"\t";
    }
    cout<<"enter your value at the back side";
    cin>>i;
    number.push_back(i);
    cout<<"enter your value at the back side";
    cin>>i;
    number.push_back(i);
    cout<<"enter your value at the front side";
    cin>>i;
    number.push_front(i);
    number.pop_back();
    number.pop_back();
    for(int i:number)
    {
       cout<<i<<"\t";
    }
    return 0;
  }
```

Output:-

```
Enter your value 1
Enter your value 2
Enter your value 3
Enter your value 4
Enter your value 5
Enter your value 6
Enter your value 7
Enter your value 8
Enter your value 9
Enter your value 10
1 2 3 4 5 6 7 8 9 10
Enter your value at the back side: 11
Enter your value at the back side: 12
Enter your value at the back side: 0
0 1 2 3 4 5 6 7 8 9 10
```

3.Configure a stack & take 10 integers. Show the elements. Again take 2 more integers & remove 3 integers show the stack again.

```
= #include<iostream>
#include<stack>
using namespace std;
int main()
{
  stack<int>number;
  stack<int>number1;
  int i;
  for(i=0;i<=10;i++)
  {
     cout<<"Enter your value";
     cin>>i;
     number.push(i);
  }
    number1=number;
   while(!number1.empty())
    {
       int t=number1.top();
       cout<<"t"<<endl;
       number1.pop();
    }
    cout<<"enter your value";
    cin>>i;
    number.push(i);
    cout<<"enter your value";
    cin>>i;
    number.push(i);
    number.pop();
    number.pop();
    number.pop();
    number1=number;
    while(!number1.empty())
    {
       int t=number1.top();
       cout<<"t"<<endl;
       number1.pop();
    }
    return 0;
  }
```

Output:-

```
Enter your value 1
Enter your value 2
Enter your value 3
Enter your value 4
```

```
Enter your value 5
Enter your value 6
Enter your value 7
Enter your value 8
Enter your value 9
Enter your value 10
10
9
8
7
6
5
4
3
2
1
Enter your value:11
Enter your value:12
9
8
7
6
5
4
3
2
1
```

4.A circle has center co-ordinate (3,2) and radius is 5 unit. Take a point (h,k) on the co-ordinate system. Write a system code to check whether the point is on the circle , inside the circle , or outside the circle.

```
= #include<iostream>
#include<math.h>
using namespace std;
int h,k,int radius=5,x=3,y=2;
cout<<"Enter H point value";
cin>>h;
cout<<"Enter k point value";
cin>>k;
int area=3.14*radius*radius;
int distance=Sqrt((pow(x-h,2)))+((pow(y-k,2)));
if(distance>radius)
{
   cout<<"point is outside";
}
elseif(distance<radius)
{
```

```
     cout<<"point is inside";
}
else
{
    cout<<"point is onside";
}
return 0;
```