```
int *s;// a pointer pointing to an array we have created
}
```

Now , we have collected the basic knowledge and hence , we can create our program.

```
#include<iostream>
using namespace std;
struct stack
{
int size;
int top; // We will use it as pointer to top of the stack
int *s;
} st; // Here pointer is struct variable, you can see here how to implement structure in C

 void push(); // To push elements in stack
 int  pop();  // To Pop elements in stack
 void display();
 void peek();
 int main()
 {
 int c;
 st.top=-1; //Set pointer to -1
 cout<<"enter the size of stack\n";
 cin>>st.size;
 st.s=(int *)malloc(st.size* sizeof(int));
 while(1)  //While loop to keep program in loop
  {
```

```
23.  cout<<"\n Pointer is at : \t"<<st.top+1<<endl;
  //this line is to test, the position of pointer
24.  cout<<"\n Please enter your choice
  :"<<endl<<"1: Push"<<endl<<"2: Pop"<<endl<<"3:
  Peek"<<endl<<"4: Display"<<endl<<"5:
  Exit"<<endl;
25.  cin>>c;
26.     switch(c)
27.     {
28.     case 1:
29.         push();
30.         break;
31.     case 2:
32.         pop();
33.         break;
34.     case 3:
35.         peek();
36.         break;
37.     case 4:
38.         display();
39.         break;
40.     case 5:
41.         return 0;
42.     default:cout<<"invalid input\n";
43.     }
44.   }
45.  }
46.  void push()
47.  {
48.     int num;
```

```
49.     if(st.top==(st.size-1))
50.     {
51.         cout<<"\n Sorry stack overflow";
52.     }
53.     else
54.     {
55.     cout<<"\n Enter the number to push into
  stack";
56.     cin>>num;
57.     st.top+=1;
58.     st.s[st.top]= num;
59.     }
60. }
61.
62. int pop()
63. {
64.     int num;
65.     if(st.top==-1)
66.     {
67.     cout<<"\nstack is empty "<<endl;
68.     }
69.     else
70.     {
71.     num=st.top;
72.     cout<<"\n Poped number is : "<<st.s[num];
73.     st.top-=1;
74.     }
75.     return num;
76.
77. }
```

```
78. void peek()
79. {
80.                                         int pos;
81.                                         int x=-1;
82.
  cout<<"Enter the position you want to see\n";
83.                                         cin>>pos;
84.
  if(st.top-pos+1<0)
85.
  cout<<"Invalid Position\n";
86.                                         else
87.
  x=st.s[st.top-pos+1];
88.     cout<<x<<"\n";
89. }
90. void display()
91. {
92.     if(st.top==-1)
93.     {
94.     cout<<"\n Stack is empty"<<endl;
95.     }
96.     else
97.     {  cout<<"stack entries--------\n";
98.     for(int i=st.top;i>=0;i--)
99.         {
100.        cout<<st.s[i]<<" "<<endl;
101.        }
102.    }
```