

```
#include <stdio.h>
#include <stdlib.h>
#define SIZE 10
int stack[SIZE];
int top=-1;

void push(int value)
{
    if (top==SIZE-1)
    {
        printf("the stack is full, cannot push a value into the stack");
    }
    else
    {
        top++;
        stack[top]=value;
        printf("value has been pushed into stack");
    }
}

void pop()
{
    if (top==-1)
    {
        printf("the stack is empty, cannot pop a value");
    }
    else
    {
        printf("the popped value is %d", stack[top]);
        top--;
    }
}

void peek()
{
    if (top==-1)
    {
        printf("stack is empty, cannot peek into stack");
    }
    else
    {
        printf("the top value is %d",stack[top]);
        for (int i=top; i>=0; i--)
        {
            printf("%d\n", stack[i]);
        }
    }
}
```

```
int main()
{
    int value;
    int choice;

    printf("*****MENU*****");
    printf("\n enter your choice:\n 1.push \n 2.pop \n 3.peek \n 4.exit \n");
    scanf("%d",&choice);

    switch(choice)
    {
        case 1:
        {
            printf("enter the value to be pushed\n");
            scanf("%d",&value);
            push(value);
            printf("value has been pushed");
        }
        case 2:
        {
            pop();
        }
        case 3:
        {
            peek();
        }
        case 4:
        {
            exit(0);
        }
        default:
            printf("invalid choice");
    }
    return 0;
}
```

OUTPUT:

```
enter your choice:
1.push
2.pop
3.peek
4.exit
1
enter the value to be pushed
10
value has been pushed into stack*****MENU*****
enter your choice:
1.push
2.pop
3.peek
4.exit
2
the popped value is 10value has been pushed*****MENU*****
enter your choice:
1.push
2.pop
3.peek
4.exit
1
enter the value to be pushed
20
value has been pushed into stack*****MENU*****
enter your choice:
1.push
2.pop
3.peek
4.exit
3
20
*****MENU*****
enter your choice:
1.push
2.pop
3.peek
4.exit
4
```