

1) Push(), pop(), peek(), display()

```
# include <stdio.h>
# include <conio.h>
# define SIZE 5
void push (int);
void pop ();
void display ();
void peek();
int Stack [SIZE], top = -1;
void main()
{
    int value, choice;
    while (1)
    {
        printf ("1. Push\n2. Pop\n3. Display\n4. Peek\n5. Exit");
        printf ("Enter your choice:");
        scanf ("%d", &choice);
        switch (choice)
        {
            case 1:
                printf ("Enter the value to be inserted:");
                scanf ("%d", &value);
                push (value);
                break;
            case 2:
                pop();
                break;
            case 3:
                display();
                break;
            case 4:
                peek();
                break;
        }
    }
}
```

**Case 5:**  
 exit(0);  
 default: printf("Wrong selection! Try again\n");

```

void push(int value) {
  if (top == SIZE - 1)
    printf("In stack is full, insertion not
           possible: STACK OVERFLOW")
  else {
    top++;
    stack[top] = value;
    printf("In Insertion successful\n");
  }
}

void pop() {
  if (top == -1)
    printf("In stack is empty! Deletion not
           possible: STACK UNDERFLOW");
  else
    printf("Deleted: %d", stack[top]);
  top--;
}

void display() {
  if (top == -1)
    printf("Stack is empty\n");
  else {
    int i;
    printf("In stack elements are: In\n");
    for (i = top; i >= 0; i--)
      printf("%d\n", stack[i]);
  }
}
  
```

```
void peek() {  
    if (top == -1)  
        printf("Stack is empty \n");  
    else {  
        printf("%d", stack[top]);  
    }  
}
```

Output: → 1. push 2. pop 3. display 4. peek 5. exit

Enter your choice: 1

Enter the value to be inserted: 5

Insertion successful.

1. push 2. pop 3. display 4. peek 5. exit

Enter your choice: 1

Enter the value to be inserted: 7

Insertion successful.

1. push 2. pop 3. display 4. peek 5. exit

Enter your choice: 2

Enter the value to be inserted: 9.

Insertion successful.

1. push 2. pop 3. display 4. peek 5. exit

Enter your choice: 2

Enter the value to be inserted: 4

Stack is full. Insertion not possible: STACK OVERFLOW

1. push 2. pop 3. display 4. peek 5. exit

Enter your choice: 2

Deleted: 9

1. push 2. pop 3. display 4. peek 5. exit

Enter your choice: 3

Stack elements (top to bottom):

7  
5

1. push 2. pop 3. display 4. peek 5. exit

Enter your choice:

Top element: 7

Q  
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