

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("Enter menu: ");
```

```
printf("1. Push In 2. Pop In 3. Display In 4. Peek In");
```

5. 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");

} }

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: \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: 1

Enter the value to be inserted: 9.

Insertion successful.

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

Enter your choice: 1

Enter the value to be inserted: 4

Stack is full. Insertion not possible: STACK OVER.

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: 4

Top element: 7

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