

C-Program to implement stack using Arrays

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#define STACK_SIZE 5
```

```
int item;
```

```
int stack[10];
```

```
int top = -1;
```

```
void Push()
```

```
{
```

```
    if (top == STACK_SIZE - 1)
```

```
    {
```

```
        printf("\n STACK OVERFLOW\n");
```

```
        return;
```

```
    }
```

```
    top = top + 1;
```

```
    stack[top] = item;
```

```
}
```

```
int Pop()
```

```
{
```

```
    if (top == -1) return -1;
```

```
    return stack[top--];
```

```
}
```

```
void display()
```

```
{
```

```
    int i;
```

```
    if (top == -1)
```

```
    {
```

```
        printf("\n STACK UNDERFLOW\n");
```

```
        return;
```

```
    }
```

```

printf("\n DISPLAYING CONTENTS OF STACK\n");
for (i=0; i<=top; i++)
{
    printf("%d\n", stack[i]);
}
}

int main()
{
    int Deleted_item;
    int choice;
    for (;;)
    {
        printf("\n 1: Push\n 2: Pop\n 3: display\n 4: exit\n");
        printf("Enter the choice\n");
        scanf("%d", &choice);
        switch(choice)
        {
            case 1: printf("Enter the item to be inserted\n");
                    scanf("%d", &item);
                    push();
                    break;

            case 2: Deleted_item = pop();
                    if (Deleted_item == -1)
                    {
                        printf("STACK IS EMPTY\n");
                    }
        }
    }
}

```

```
else  
{  
    printf("Item deleted is %d\n", Deleted_item);  
}  
break;
```

```
case 3 : display();  
        break;
```

```
default : exit(0);  
return 0;
```

```
}  
}
```