

## Stack

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

```
#define N 5
```

```
int stack[N];
```

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

```
void PUSH() {
```

```
    int x;
```

```
    printf("Enter data ");
```

```
    scanf("%d", &x);
```

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

```
        printf("Stack overflow");
```

```
    }
```

```
    else {
```

```
        top++;
```

```
        stack[top] = x;
```

```
    }
```

```
}
```

```
void POP() {
```

```
    int item;
```

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

```
        printf("Stack underflow");
```

```
    }
```

```
    else {
```

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

```
        top--;
```

```
        printf("%d", item);
```

```
    }
```

```
}
```

```
void PEEK() {
```

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

```
        printf("Stack Underflow");
```

```
    }
```

```
    else {
```

```
        printf("%d", stack[top]);
```

```
        top--;
```

```
    }
```

```
}
```

```
int main() {
```

```
    int choice;
```

```
    printf("1. Push \n 2. Pop \n 3. Peek \n 4. Exit \n");
```

```
    scanf("%d", &choice);
```

```
    while (choice != 4) {
```

```
        switch (choice) {
```

```
            case 1:
```

```
                PUSH();
```

```
                break;
```

```
            case 2:
```

```
                POP();
```

```
                break;
```

```
            case 3:
```

```
                PEEK();
```

```
                break;
```

```
            default:
```

```
                printf("Invalid choice");
```

```
                break;
```

```
        }
```

```
        printf("Enter a choice");
```

```
        scanf("%d", &choice);
```

```
    }
```

```
    return 0;
```

```
}
```

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1. Push
2. Pop
3. Peek
4. Exit

Enter a choice 1

Enter data 10

Enter a choice 1

Enter data 20

Enter a choice 1

Enter data 30

Enter a choice 1

Enter data 40

Enter a choice 1

Enter data 50

Enter a choice 1

Enter data 60

Stack Overflow

Enter a choice 2

50

Enter a choice 4

Exit:

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