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1BM19CS202
3-D(batch-2)

WEEK 2 LAB PROGRAM WITH OUTPUT.

```c
#include<stdio.h>
#define size 10
void push();
void pop();
void isEmpty();
void isFull();
void display();
int stack[size],top=-1;

void main(){
        int value,choice;
        while(1){
            printf("enter your choice\n");
            printf("1.push \n 2.pop \n 3.Empty \n 4. Full\n 5.display \n");
            scanf("%d",&choice);
            switch (choice){
                    case 1:
                        printf("enter the value to push\n");
                        scanf("%d",&value);
                        push(value);
                        break;
                    case 2:
                        pop();
                        break;
                    case 3:
                        isEmpty();
                        break;
                    case 4:
                        isFull();
                        break;
                    case 5:
                        display();
                        break;
                }
            }
        }

void push(int value){
            if(top==size-1){
                printf("stacloverflow! \n");
            }
            else{
                top++;
                stack[top]=value;
            }
}
void pop(){
    if(top==-1){
        printf("empty stack\n");
    }
```

```c
    else{
    top--;
    }
}

void isEmpty(){
    if(top==-1){
        printf("stack is empty!\ n");
        }
    else{
        printf("stack full\n");
    }
    }


void isFull(){
    if (top==size){
    printf("stack full!");
    }
    else{
    printf("stackempty");
    }
}



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

OUTPUT BELOW

```
enter your choice
1.push
 2.pop
 3.Empty
 4. Full
 5.display
1
enter the value to push
2
enter your choice
1.push
 2.pop
 3.Empty
 4. Full
 5.display
1
enter the value to push
3
enter your choice
1.push
 2.pop
 3.Empty
 4. Full
 5.display
5
the stack elements are
3
2
enter your choice
1.push
 2.pop
 3.Empty
 4. Full
 5.display
3
stack full
```