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//implementation of stack using array

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#include<stdio.h>
int stack[100],n,choice,top,i,element;
void push(void);
void pop(void);
void display(void);

int main()
{
    top=-1;
    printf("\nEnter the size of the Stack:");
    scanf("%d",&n);

    printf("\n\t 1.push \n\t 2.pop \n\t 3.display \n\t 4.exit");

    do{
        printf("\nChoose operation you want to perform on stack:\n");
        scanf("%d",&choice);
        switch(choice){
            case 1:push();
            break;

            case 2:pop();
            break;

            case 3:display();
            break;

            case 4:printf("Exit");
            break;

            default:printf("\nEnter a valid choice\n");
        }
    }while(choice!=4);

    return 0;
}

void push(){
if(top>=n-1){
    printf("OVERFLOW");
}
else{
    printf("Enter element you want to push:");
    scanf("%d",&element);
    top++;
    stack[top]=element;
}
}

void pop(){
if(top>=0){
    printf("Pop element:%d",stack[top]);
    top--;
}
else{
```

```

        printf("UNDERFLOW");
    }
}

void display(){
    if(top>=0){
        printf("\nElements of stack are:");
        for(i=top;i>=0;i--){
            printf("%d ",stack[i]);
        }
    }
    else{
        printf("Stack is empty");
    }
}
}

```

OUTPUT

```

Command Prompt
C:\Users\piyus\Desktop\c_programs>gcc stackUsingArray.c
C:\Users\piyus\Desktop\c_programs>a.exe
Enter the size of the Stack:5
    1.push
    2.pop
    3.display
    4.exit
Choose operation you want to perform on stack:
1
Enter element you want to push:10
Choose operation you want to perform on stack:
1
Enter element you want to push:20
Choose operation you want to perform on stack:
3
Elements of stack are:20 10
Choose operation you want to perform on stack:
1
Enter element you want to push:30
Choose operation you want to perform on stack:
2
Pop element:30
Choose operation you want to perform on stack:
3
Elements of stack are:20 10
Choose operation you want to perform on stack:
4
Exit
C:\Users\piyus\Desktop\c_programs>

```