

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

```
int stack[100], choice, n, top, x, i;
```

```
void push(void);
```

```
void pop(void);
```

```
void display(void);
```

```
int main()
```

```
{
```

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

```
    printf("\n Enter the size of stack (MAX=100):");
```

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

```
    printf("\n\t Stack operation using array");
```

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

```
do
```

```
{
```

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

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

```
    switch (choice)
```

```
    {
```

```
        case 1:
```

```
        {
```

```
            push();
```

```
            break;
```

```
        }
```

```
        case 2:
```

```
        {
```

```
            pop();
```

```
            break;
```

```
        }
```

```
        case 3
```

```
        {
```

```
            display();
```

```
        } break;
```

case 4 :

```
{  
    break;  
}
```

default :

```
{  
    printf("Please Enter a Valid choice");  
}
```

```
}  
while (choice != 4);  
return 0;
```

void push()

```
{
```

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

```
    {
```

```
        printf("Stack Overflow");
```

```
    }
```

else

```
{
```

```
    printf("Enter a value to be pushed:");
```

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

```
    top++;
```

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

```
}
```

```
}
```

void pop()

```
{
```

```
if (top < -1)
```

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

```
}
```

```
else
```

```
{
```

```
printf("The popped element is %d", stack[top]);
```

```
top--;
```

```
}
```

```
}
```

```
void display()
```

```
{
```

```
if (top >= 0)
```

```
{
```

```
printf("Elements are");
```

```
for (i = top; i >= 0; i--) {
```

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

```
}
```

```
else
```

```
{
```

```
printf("Stack is empty");
```

```
}
```

```
}
```