

```

#include <stdio.h>

#include <ctype.h>

# define SIZE 25

struct Stack {

    int top;

    int arr[SIZE];

};

void push(struct Stack *s, int ss);

int pop(struct Stack *s);

void display(struct Stack *s);

void main()

{

    struct Stack s;

    s.top = 0;

    char aa[SIZE];

    printf("Enter postfix: ");

    scanf("%s", &aa);

    int length = strlen(aa);

    int dc = 0;

    for(int i = 0; i<length; i++){

        if (isdigit(aa[i])){

            dc++;

        }

    }

    if (length-dc != dc-1){

```

```

    printf("ERROR");
    return;
}
for(int i = 0; i<length;i++){
    if (isdigit(aa[i])){
        push(&s, aa[i] - '0');
    } else {
        if (s.top < 1){
            printf("ERROR");
            return;
        }
        int t1 = pop(&s);
        int t2 = pop(&s);
        if (aa[i] == '+'){
            push(&s, (t1+t2));
        } else if (aa[i] == '-') {
            push(&s, (t2-t1));
        } else if (aa[i] == '*') {
            push(&s, (t2*t1));
        } else if (aa[i] == '/') {
            push(&s, (t2/t1));
        }
    }
}

printf("Result = %d", pop(&s));
}

```

/***

Adds elements to the top of the stack

***/

void push(struct Stack *s, int ss)

```
{
    // Checks if the stack is full
    if (s->top < SIZE)
    {
        s->arr[s->top] = ss;
        s->top++;
    }
    else
    {
        printf("STACK IS FULL\n");
    }
}
```

/***

Remove the last element from the stack

***/

int pop(struct Stack *s)

```
{
    //Checks if the stack is not empty
    if (s->top > 0)
    {
        return s->arr[s->top--];
    }
    else
    {
```

```

        printf("NO ELEMENTS IN STACK\n");
    }
}

/**
Prints all the elements in the stack
***/

void display(struct Stack *s)
{
    // Checks if the stack is empty
    if (s-> top == 0)
    {
        printf("NO ELEMENTS IN STACK\n");
        return;
    }
    for (int j = 0; j<s->top; j++)
    {
        printf("%d, ", s->arr[j]);
    }
    printf("\n");
}

```

Enter postfix: 564+*

Result = 4