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EX 6 APPLICATION OF STACK

(Evaluating Arithmetic Expression)

```
#include <stdio.h>
#include <string.h>
#define MAX 20
int Stack[MAX], top = -1;
char expr[MAX];
void Push(int ele);
int Pop();
int main()
{
    int i, a, b, c, e;
    printf("Enter the postfix expression : ");
    gets(expr);
    for(i = 0; i < strlen(expr); i++)
    {
        if(expr[i]=='+'||expr[i]=='-'||expr[i]=='*'||expr[i]=='/')
        {
            b = Pop();
            a = Pop();
            switch(expr[i])
            {
                case '+':
                    c = a + b;
                    Push(c);
                    break;
                case '-':
                    c = a - b;
                    Push(c);
                    break;
                case '*':
                    c = a * b;
                    Push(c);
                    break;
                case '/':
                    c = a / b;
                    Push(c);
```

```
break;
}
}
else
{
printf("Enter the value of %c : ", expr[i]);
scanf("%d", &e);
Push(e);
}
}
printf("The result is %d", Pop());
return 0;
}
void Push(int ele)
{
top = top + 1;
Stack[top] = ele;
}
int Pop()
{
int e;
e = Stack[top];
top = top - 1;
return e;
}
```