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EX NO: 06

PROGRAM NAME: EVALUATING ARITHMETIC EXPRESSIONS

CODE:

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

```
#define SIZE 10
```

```
int top=-1,s[SIZE];
```

```
char ex[50];
```

```
int isfull(){
```

```
    if(top==SIZE-1)return(1);
```

```
    else return(0);
```

```
}
```

```
int isempty()
```

```
{
```

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

```
        return(1);
```

```
    else
```

```
        return(0);
```

```
}
```

```
void push(int elt){
```

```
    if(isfull())
```

```
        printf("Limit reached");
```

```
    else{
```

```

        top++;
        s[top]=elt;
    }
}

int pop(){
    if(isempty())
        printf("No elements to pop");
    else{top--;
        return(s[top+1]);
    }
}

void disp(){int temp;
    if(isempty())printf("No elements");
    else{
        temp=top;
        while(temp!=-1){
            printf("%d ",s[temp]);
            temp--;
        }
    }
}

void eval(){
    int i=0,x,y,elt;
    while(ex[i]!='\0'){

```

```
if(ex[i]>='a' && ex[i]<='z'){  
    printf("Enter value of %c:\n",ex[i]);  
    scanf("%d",&elt);  
    push(elt);  
}  
else{  
    x=pop();  
    y=pop();  
    switch(ex[i]){  
    case '+':  
        push(x+y);  
        break;  
    case '-':  
        push(y-x);  
        break;  
    case '/':  
        push(y/x);  
        break;  
    case '*':  
        push(x*y);  
        break;  
    default:  
        printf("Invalid character %c",ex[i]);  
        break;  
    }
```

```

        }
    }i++;
}
}
int main()
{
    printf("Enter the postfix expression\n");
    scanf("%s",ex);
    eval();
    disp();

}

```

OUTPUT:

Enter the postfix expression

ab/c*d-

Enter value of a:

9

Enter value of b:

3

Enter value of c:

2

Enter value of d:

4

2

Process returned 0 (0x0) execution time : 41.989 s

Press any key to continue.