**EX:8 IMPLEMENTATION OF EVALUATING POSTFIX EXPRESSION**

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

// Define eh structure node

struct node

{

int data;

struct node \*top;

};

struct node \*start = NULL;

void push(int data)

{

struct node \* newnode;

newnode = malloc(sizeof(struct node));

newnode->data = data;

newnode->top = NULL;

struct node \* temp=start;

if(start==NULL)

{

start=newnode;

}

else

{

while(temp->top!=NULL)

{

temp =temp->top;

}

temp->top=newnode;

}

}

int pop()

{

int t;

struct node \* temp = start;

struct node \* pre;

if(start->top==NULL)

{

t=temp->data;

start=NULL;

return t;

}

else

{

while(temp -> top != NULL)

{

pre = temp;

temp = temp -> top;

}

pre -> top = NULL;

return temp->data;

}

}

void display()

{

if(start==NULL)

{

printf("NULL\n");

}

else

{

struct node \* temp=start;

while(temp!=NULL)

{

printf("The elements are \n");

printf("%d->",temp->data);

temp=temp->top;

}

printf("\n");

}

}

#include<stdio.h>

void main()

{

int i,x,y,z,a,b,c,d;

char exp[50];

printf("Name:R.Sridevi");

printf("\nRoll.no:20UIT021");

printf("\nProgram Name: Implementation of evaluation of postfix");

printf("\nEnter the expression :");

scanf("%s",exp);

for(i=0;i<strlen(exp);i++)

{

if(isdigit(exp))

{

push(exp[i]-'0');

display();

}

else

{

x=pop();

printf("Popped out element is %d\n",x);

y=pop();

printf("Popped out element is %d\n",y);

display();

switch(exp[i])

{

case '+':

{

a=x+y;

push(a);

display();

break;

}

case '-':

{

b=x-y;

push(b);

display();

break;

}

case '\*':

{

c=x\*y;

push(c);

display();

break;

}

case '/':

{

d=x/y;

push(d);

display();

break;

}

}

}

}

z=pop();

printf("The value for the %s postfix expression is %d",exp,z);

}

**OUTPUT:**

Name:R.Sridevi

Roll.No:20UIT021

Program Name:Implementation of evaluation of postfix

Enter the Expression

345\*6-\*

Popped out element is 5

Popped out element is 4

The elements are 3->

The elements are 20->

Popped out element is 6

Popped out element is 20

The elements are 3->

The elements are 14->

Popped out element is 14

Popped out element is 3

The elements are 42->