**Design, develop and Implement a Program in C for the following Stack Applications. Evaluation of Suffix expression with single digit operands and operators: +, -, \*, /, %, ^**

#include<stdio.h>

#include<ctype.h>

#include<math.h>

#include<string.h>

**// main program**

void main()

{

char post[10],ch;

int i,a,b,res,top= -1,s[10];

clrscr();

printf(" Enter the valid numerical postfix expression \n");

scanf("%s",post);

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

{

ch=post[i];

if(isdigit(ch))

push(s, &top, ch-'0');

else

{

b = pop(s,&top);

a = pop(s,&top);

if( ch == '+' ) res = a + b;

if( ch == '-' ) res = a - b;

if( ch == '\*' ) res = a \* b;

if( ch == '/' ) res = a / b;

if( ch == ‘%’) res = a%b

if( ch == ‘^’) res = pow(a,b);

push(s, &top, res);

}

}

printf(" The evaluated value of expression is %d \n", res);

}

**// Function to Insert Item into stack**

push(int s[10], int \*top, int item)

{

\*top = \*top + 1;

s[\*top]=item;

}

**// Function to delete item from stack**

pop(int s[10], int \*top)

{

int item;

item = s[\*top];

\*top = \*top - 1;

return item;

}

**/\* OUTPUT**

Enter the valid numerical postfix expression

34+

The evaluated value of expression is 7

Enter the valid numerical postfix expression

432\*+5-

The evaluated value of expression is 5

Enter the valid numerical postfix expression

64+93-\*

The evaluated value of expression is 60

Enter the valid numerical postfix expression

53+82-\*

The evaluated value of expression is 48

\*/