Exp (12): write a C program to implement the applicatio of stack [notations]

Aim: To write a C program to implement the application of stack [notations]

Algorithm:

*. start.
*. input an infix expression.
*. use stack to convert infix to postfix.
*. print the postfix expression.
*. stop.

program:

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

char stack[50];
int top = -1;
void push(char x){ stack[++top] = x; }
char pop(){ return stack[top--]; }

int prec(char c){
    if(c=='*'||c=='/') return 1;
    if(c=='+'||c=='-') return 2;
    return 0;
}
int main(){
    char in[50], post[50], ch;
    int i=0, j=0;
    printf("Enter infix: ");
    scanf("%s", in);
    while((ch=in[i++])!='\0'){
        if(isalnum(ch))
            post[j++] = ch;
        else{
            while(top!=-1 && prec(stack[top])>=prec(ch))
                post[j++] = pop();
            push(ch);
        }
    }
```

```
while (top != -1)
    post[j++] = pop();  post[j] = '\0';
printf("postfix = %s\n", post);
```

output:

```
Enter infix : A+B*C
postfix = ABC*+
```

Result: Thus, the program executed successfully