WEEK 2

Program:

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

int index=0, pos=0, top=-1, length;
char symbol, temp, infix[20], postfix[20], stack[20];

void infixtopostfix();
void push(char symbol);
char pop();
int pred(char symb);

void main()
{
    printf("Enter Infix Expression:\n");
    scanf("%s",infix);

    infixtopostfix();

    printf("\nInfix expression:\n%s",infix);
    printf("\nPostfix expression:\n%s",postfix);

    getch();
}

void infixtopostfix()
{
    length=strlen(infix);
    push('#');
    while(index<length)
    {
        symbol=infix[index];
        switch(symbol)
        {
            case '(':push(symbol);
                break;
            case ')':temp=pop();
                while(temp!='(')
                {
                    postfix[pos]=temp;
                    pos++;
                    temp=pop();
                }
                break;
            case '+':
            case '-':
            case '*':
```

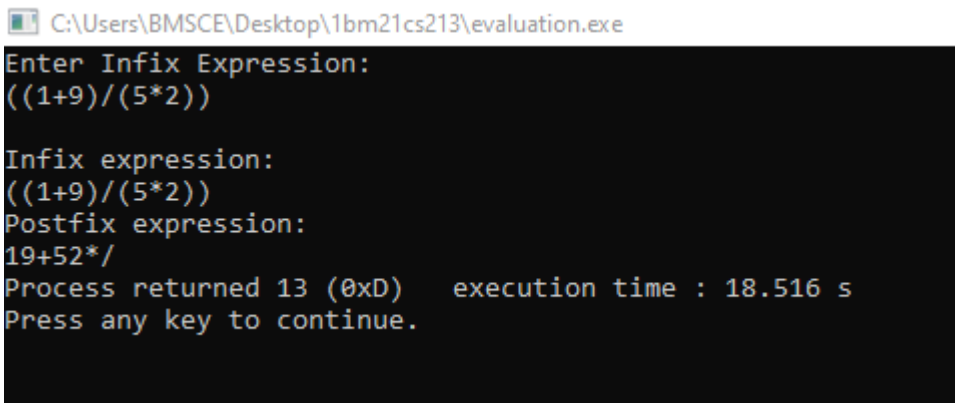
```
            case '/':
            case '^': while(pred(stack[top])>=pred(symbol))
                {
                    temp=pop();
                    postfix[pos++]=temp;
                }
                push(symbol);
                break;
            default: postfix[pos++]=symbol;
        }
        index++;
    }
    while(top>0)
    {
        temp=pop();
        postfix[pos++]=temp;
    }
}

void push(char symbol)
{
    top=top+1;
    stack[top]=symbol;
}

char pop()
{
    char symb;
    symb=stack[top];
    top=top-1;
    return(symb);
}

int pred(char symbol)
{
    int p;
    switch(symbol)
    {
        case '^':p=3;
                 break;
        case '*':
        case '/':p=2;
                 break;
        case '+':
        case '-':p=1;
                 break;
        case '(':p=0;
                 break;
        case '#':p=-1;
                 break;
    }
    return(p);
}
```

Output:


C:\Users\BMSCE\Desktop\1bm21cs213\evaluation.exe
Enter Infix Expression:
((1+9)/(5*2))
Infix expression:
((1+9)/(5*2))
Postfix expression:
19+52*/
Process returned 13 (0xD)   execution time : 18.516 s
Press any key to continue.