EXPERIMENT – 5

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Branch: CSE-AIML	**Section/Group: 21AML-9 - "A"**
Semester: 3rd	**Date of Performance: 13/10/2022**
Subject Name: Data structures	**Subject Code: 21CSH-241**

1. Aim of experiment

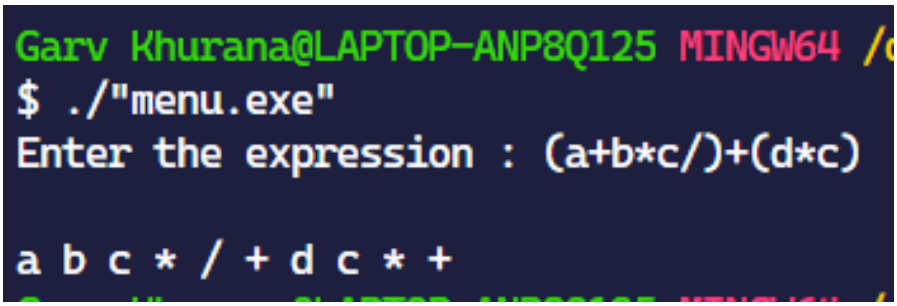
WAP is to convert Infix to Postfix expression using Stack.

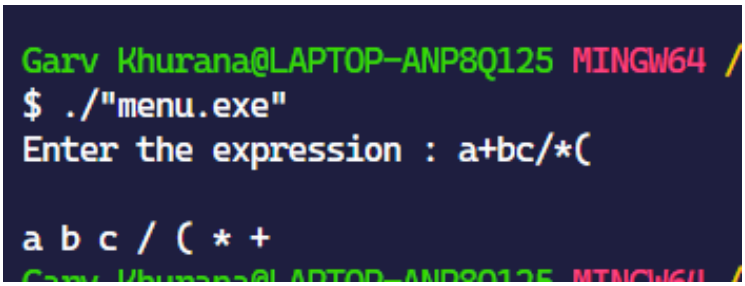
2. Program Code:

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

char stack[100];
int top = -1;

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

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

int priority(char x)
{
   if (x == '('
```

```
    return 0;

  if (x == '+' || x == '-')
    return 1;
  if (x == '*' || x == '/')
    return 2;
  return 0;
}
int main()
{
  char exp[100];
  char *e, x;
  printf("Enter the expression : ");
  scanf("%s", exp);
  printf("\n");
  e = exp;

  while (*e != '\0'){
    if (isalnum(*e))
      printf("%c ", *e);
    else if (*e == '(')
      push(*e);
    else if (*e == ')'){
      while ((x = pop()) != '(')
        printf("%c ", x);
    }
    else{
      while (priority(stack[top]) >= priority(*e))
        printf("%c ", pop());
      push(*e);
    }
    e++;
  }
  while (top != -1){
    printf("%c ", pop());
  }
  return 0;
}
```

OUTPUT





Learning outcomes (What I have learned):

1. **Infix Expression.**
2. **Postfix Expression.**

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			