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COURSE NAME: DATA STRUCTURES FOR MODERN COMPUTING SYSTEMS

COURSE CODE: CSA0302

Experiment 16: Infix to Postfix

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 infix expression: ");
    scanf("%s", exp);
    e = exp;
    printf("The postfix is: ");
    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:

```
Enter the infix expression: A+B*C
The postfix is: ABC*+

=== Code Execution Successful ===
```