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Batch :- MCA(1)

Question No 3 : Expression Evaluation

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <ctype.h>
#define MAX_SIZE 100
int stack[MAX_SIZE];
int top = -1;

void push(int value) {
    if (top == MAX_SIZE - 1) {
        printf("Stack is overflow\n");
        return;
    }
    stack[++top] = value;
}

int pop() {
    if (top == -1) {
        printf("Stack is underflow\n");
        return -1;
    }
    return stack[top--];
}
```

```
}
```

```
int evaluatePostfix(char *expression) {  
    for (int i = 0; expression[i]; i++) {  
        if (isdigit(expression[i])) {  
            push(expression[i] - '0');  
        } else {  
            int num2 = pop();  
            int num1 = pop();  
            switch (expression[i]) {  
                case '+':  
                    push(num1 + num2);  
                    break;  
                case '-':  
                    push(num1 - num2);  
                    break;  
                case '*':  
                    push(num1 * num2);  
                    break;  
                case '/':  
                    push(num1 / num2);  
                    break;  
            }  
            return -1;  
        }  
    }  
}
```

```
    return pop();  
}  
  
int main() {  
    char expression[] = "10+2*";  
    int result = evaluatePostfix(expression);  
  
    if (result != -1) {  
        printf("Result is : %d\n", result);  
    }  
  
    return 0;  
}
```

Output:

PROBLEMS OUTPUT TERMINAL

Microsoft Windows [Version 10.0.22621.2134]
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D:\Coding\C>cd "d:\MCA\2. Data Structures and Algorithms + LAB\C\" && gcc ExpressionEvaluation.c -o ExpressionEvaluation && "d:\MCA\2. Data Structures and Algorithms + LAB\C\"ExpressionEvaluation
Result is : 2

d:\MCA\2. Data Structures and Algorithms + LAB\C>