7/10/2020 evaluation of postfix expression.

```
// Declaring the header files //

#include <stdio.h>
#include <math.h>
#include <string.h>
#include <ctype.h>

// Declaring function prototype for
   Symbol, op1 and op2 //
double Operate (char Symbol, double op1,
                double op2)
{
  Switch (Symbol)
  {
    case '+' : return op1 + op2;
    case '-' : return op1 - op2;
    case '*' : return op1 * op2;
    case '/' : return op1 / op2;
    case '$' :
    case '^' : return pow(op1, op2);
  }
}
```

```
void main()
{
    double stack[20]; //initializing stack of size 20//
    double result; //initializing result to double
                    data type//
    int top=-1, i; //initializing top to
      -1 which is empty and i//

    char postfix[20], symbol;

    // initialize postfix expression of size 20 and
    symbol of datatype character //

    Printf("Enter postfix expression\n");
    // taking the user input //

    Scanf("%s", postfix);
    // storing postfix expression//.
    //loop //
     for(i=0; i<Strlen(postfix); i++)
     {
       Symbol = postfix[i];
       if(isdigit(Symbol))
       Stack[++top] = symbol[-'0';
```

// if the scanned symbol in the postfix expression is operand. push it to the stack //

else

{

op2 = stack[top--];

op1 = stack[top--];

result = operate(symbol, op1, op2);

stack[++top] = result;

}

}

// or else if the scanned symbol in the postfix expression is operator, pop the two elements from the stack and the first popped element is operand 2 placed in & 2nd popped element is in operand 1.

~~op1 op2~~

then result op1 (op) op2

operator

Push the result back on the stack. thus that //.

classmate
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(2) Recursion

```
// Declaring header files //
#include <stdio.h>
int fact (int num) // declaration prototype //
{
    if (num == 0)
        return 1;
    else
        return num * fact (num-1);
}
// if number user input is 0 then
its return 1 or else return
num x factorial of (num-1) //

void main ()
{
    int num;
    printf ("Enter the number of which
u have to find factorial\n");
    scanf ("%d", &num);
    printf ("the factorial of %d = %d \n",
        num, fact(num));
}
// initializing number to out datatype
taking the user input and storing
that and then finding the factorial //
```