# Converted Jupyter Notebook Content

def priority (oper):  
 if oper == '+' or oper == '-':  
 return 1  
 elif oper == '\*' or oper == '/':  
 return 2  
 elif oper == '^' or oper == '%':  
 return 3  
 else:  
 return 0  
  
  
def use(a, b, oper):  
 if oper == '+':  
 return a + b  
 elif oper == '-':  
 return a - b  
 elif oper == '\*':  
 return a \* b  
 elif oper == '/':  
 return a / b  
 elif oper == '%':  
 return a % b  
 elif oper == '^':  
 result = 1  
 for k in range(int(b)):  
 result = result \* a  
 return result  
  
def eval(expo):  
 nums = [0] \* 100   
 ops = [''] \* 100   
 nums\_top = -1  
 oper\_top = -1  
 i = 0  
  
 while i < len(expo):  
 char = expo[i]  
  
   
 if char == ' ':  
 i += 1  
 continue  
  
   
 if ('0' <= char <= '9') or char == '.':  
 num\_str = ""  
 while i < len(expo) and (('0' <= expo[i] <= '9') or expo[i] == '.'):  
 num\_str += expo[i]  
 i += 1  
 nums\_top += 1  
 nums[nums\_top] = float(num\_str)  
 continue  
  
   
 elif char == '(':  
 oper\_top += 1  
 ops[oper\_top] = char  
  
   
 elif char == ')':  
 while oper\_top >= 0 and ops[oper\_top] != '(':  
 b = nums[nums\_top]  
 nums\_top -= 1  
 a = nums[nums\_top]  
 nums\_top -= 1  
 op = ops[oper\_top]  
 oper\_top -= 1  
 nums\_top += 1  
 nums[nums\_top] = use(a, b, op)  
 oper\_top -= 1   
  
   
 else:  
 while oper\_top >= 0 and priority(ops[oper\_top]) >= priority(char):  
 b = nums[nums\_top]  
 nums\_top -= 1  
 a = nums[nums\_top]  
 nums\_top -= 1  
 op = ops[oper\_top]  
 oper\_top -= 1  
 nums\_top += 1  
 nums[nums\_top] = use(a, b, op)  
 oper\_top += 1  
 ops[oper\_top] = char  
  
 i += 1  
  
 while oper\_top >= 0:  
 b = nums[nums\_top]  
 nums\_top -= 1  
 a = nums[nums\_top]  
 nums\_top -= 1  
 op = ops[oper\_top]  
 oper\_top -= 1  
 nums\_top += 1  
 nums[nums\_top] = use(a, b, op)  
  
 return nums[nums\_top]  
  
  
expr = "1+2\*3\*(4-5/4)-(3/5)+2^3"  
print("Expression:", expr)  
res = eval(expr)  
print("Result:", res)