MathsQuiz

March 17, 2022

[ ]:
```
import math
def calculateAnswer(lhs, rhs, operator):
    if(operator == "-"):
        return lhs - rhs
    if(operator == "*"):
        return lhs * rhs
    if(operator == "/"):
        return lhs / rhs
    if(operator == "+"):
        return lhs + rhs
    if(operator == "^"):
        return lhs ** rhs
    if(operator == "l"):
        return math.log(lhs,rhs)
    raise Exception("Unknown Operator")


print(calculateAnswer(8, 2, "+"))
print(calculateAnswer(8, 2, "-"))
print(calculateAnswer(8, 2, "*"))
print(calculateAnswer(8, 2, "/"))
print(calculateAnswer(8, 2, "^"))
print(calculateAnswer(8, 2, "l"))
```

[9]:
```
from random import randint
def generateQuestion(lowerBound,upperBound):
    ops = "/*-+^l"
    opIndex = randint(0,len(ops)-1)
    operator = ops[opIndex]
    lhs = randint(lowerBound,upperBound)
    rhs = randint(lowerBound,upperBound)
    while (rhs == 0 and operator == "/"):
        rhs = randint(lowerBound,upperBound)
    while (rhs == 0 and operator == "l"):
        rhs = randint(lowerBound,upperBound)
    while (lhs == 0 and operator == "l"):
        lhs = randint(lowerBound,upperBound)
```

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    return lhs, rhs, operator
```

[32]:
```
def isAccurateEnough(givenAnswer, correctAnswer, tolerance = 0.01):
    difference = abs(float(givenAnswer) - float(correctAnswer))
    return difference <= tolerance
```

[ ]:
```
totalQuestions = input("How many questions do you want to answer?")
correct = 0
for i in range(int(totalQuestions)):
    question = generateQuestion(1,10)
    correctAnswer = calculateAnswer(question[0],question[1],question[2])
    playerAnswer = input("{0} {2} {1} = ".
 ↪format(question[0],question[1],question[2]))
    if(isAccurateEnough(playerAnswer, correctAnswer)):
        print ("Correct!")
        correct += 1
    else:
        print ("Wrong! Correct answer = " + str(correctAnswer))

print( "You got {0} correct out of {1} or {2}% correct".
 ↪format(correct,int(totalQuestions),correct/int(totalQuestions)*100))
```

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