

## SI@UCF Python Program: *Arithmetic Practice Game*

Write a program that helps students practice their multiplication.

For the required version of the program, first prompt the user how many questions they would like.

Then ask the user what they want the maximum value of each number in the problem to be. (Please give them the following choices: 10, 12, 15 or 20.)

Then, prompt the user with each randomly generated question and read in their answer. If their answer is correct, print a message stating so. If not, print out an error message with the correct answer. At the end of the set of questions, give the user their score.

Here is a test run:

```
How many questions do you want?
```

```
5
```

```
What is the largest number to be used for the problems?
```

```
Please enter 10, 12, 15 or 20.
```

```
12
```

```
What is 3x9?
```

```
27
```

```
Correct!
```

```
What is 4x6?
```

```
42
```

```
Incorrect, 4x6 = 24.
```

```
What is 12x11?
```

```
132
```

```
Correct!
```

```
What is 8x2?
```

```
16
```

```
Correct!
```

```
What is 7x5?
```

```
35
```

```
You correctly solved 4 out of 5 questions.
```

### **Optional Enhancement**

If you finish this requirement, then edit your program that allows students to practice the five following operations:

- 1) Addition
- 2) Subtraction
- 3) Multiplication
- 4) Integer Division
- 5) Modulus

Your program should start by prompting the user to enter one of the five operations they want to practice:

```
Please enter one of the following choices:
```

- ```
1) addition
2) subtraction
3) multiplication
4) integer division
5) modulus
```

Read in their choice as an integer (1-5). Assume they enter appropriately - please do not error check.

Next, ask the user how many questions they want to have.

Then, give the user that many questions using randomly generated operands in between 1 and 20, inclusive. For both integer division and modulus, the first randomly generated operand should range from 1 to 400, inclusive. For subtraction, the second operand should always be less than or equal to the first operand.

For each question, immediately tell the user if they got the question correct or incorrect. If they got the question incorrect, give them the correct answer.

At the end of the program, tell the user how many questions they solved correctly.

Note that this optional version is a little different than the required version in that you don't ask the user the range of the numbers for the problems.

Here is a simple sample run (user input in bold italics) - feel free to use this format or make your program more fancy, if you'd like:

Please enter one of the following choices:

- 1) addition
- 2) subtraction
- 3) multiplication
- 4) integer division
- 5) modulus

**3**

How many questions do you want?

**5**

What is  $3 \times 9$ ?

**27**

Correct!

What is  $4 \times 6$ ?

**42**

Incorrect,  $4 \times 6 = 24$ .

What is  $12 \times 11$ ?

**132**

Correct!

What is  $8 \times 2$ ?

**16**

Correct!

What is  $7 \times 5$ ?

**35**

You correctly solved 4 out of 5 questions.