



LESSON A-15

ACTIVITY #3: GUESS A NUMBER

You will now write a program that will ask you to guess a number (hint: the number is 6). If you guess too low, too high, or just right, the program will let you know.

Step #1

Ask the user to input a number between 1 and 10 and assign it to a variable called **guess**:

```
guess = input('Pick a number between 1 and 10: ')
```

Step #2

Now that you have the user input stored as a string named **guess**, convert it to an integer, so you can compare it to other numeric values, to determine if the guess is too low, too high, or the correct number:

```
guess_int = int(guess)
```

This will take the string value of **guess**, convert it to an integer value, and store it back in a variable called **guess_int**.

Step #3

Compare the numeric value of `guess_int` to some different criteria. Use the first `if` condition to check if the guess is too low:

```
if guess_int < 6:  
    print('Too low, better luck next time!')
```

This will check to see if the number is less than 6. If so, it will print the message in the print statement.

Step #4

Use an `elif` condition to check if the guess was greater than 6:

```
elif guess_int > 6:  
    print('Too high, better luck next time!')
```

Step #5

Add the `elif` condition that will trigger if the user correctly guesses the number 6:

```
elif guess_int == 6:  
    print('Great guess, you are correct!')
```

Step #6

Add the final **else** condition that will display a message if the user's guess does not trigger any of the previous statements:

```
else:  
    print('Invalid input, please try again')
```

Step #7

There's a problem with the code above. Can you spot it?

What if the user guesses 42? 42 is greater than 6 so the "Too high" print statement will be triggered. The rules only allow for guesses between 1 and 10, so you need to limit the conditions to be more specific. Fix the less than 6 condition first. You need to allow for guesses between 1 and 5, so anything greater than 0 or anything less than 6. That would look like this:

```
if guess_int > 0 and guess_int < 6:
```

This will work but you can combine the two conditions to make one shorter statement:

```
if 0 < guess_int < 6:
```

This condition will only evaluate as True for guesses between 0 and 5. We can apply this same logic to the greater than 6 condition to limit it guesses that are greater than 6 but less than or equal to 10:

```
elif 6 < guess_int <= 10:
```

Now if a user guesses 42 it will no longer trigger the '**Too high**' condition. That guess will trigger the else statement and print "Invalid input, please try again".

Step #8

Verify the fully assembled program is free of errors:

```
guess = input('Pick a number between 1 and 10: ')
guess_int = int(guess)

if 0 < guess_int < 6:
    print('Too low, better luck next time!')
elif 6 < guess_int <= 10:
    print('Too high, better luck next time!')
elif guess_int == 6:
    print('Great guess, you are correct!')
else:
    print('Invalid input, please try again')
```

Step #9

Try running the program and make a bunch of different guesses to ensure you get the expected output from each guess. Save the program if desired (optional).