

Treasure finding Game Challenge

Let's use `while` loops to create a the game.

The Challenge: Assume that we have a 100 meters field, and the treaure is hiding in one of these 100 meters. Write a program that picks a random integer from 1 to 100, and has players who try to find the the number to get the treasure. The rules are:

1. If a player's attempt is less than 1 or greater than 100, say "OUT OF BOUNDS"
2. On a player's first turn, if their try is
 - within 10 of the number, return "close!"
 - further than 10 away from the number, return "faraway!"
3. On all subsequent turns, if a try is
 - closer to the number than the previous attempt return "closer!"
 - farther from the number than the previous attempt, return "farther!"
4. When the player's attempt equals the number, tell them they've attempted correctly *and* how many attempts it took!

You can try this from scratch, or follow the steps outlined below. A separate Solution notebook has been provided. Good luck!

First, pick a random integer from 1 to 100 using the random module and assign it to a variable

Note: `random.randint(a,b)` returns a random integer in range `[a, b]`, including both end points.

Next, print an introduction to the game and explain the rules

Create a list to store attempt

Hint: zero is a good placeholder value. It's useful because it evaluates to "False"

Write a `while` loop that asks for a valid attempt. Test it a few times to make sure it works.

In []:

```
while True:
    pass
```

Write a `while` loop that compares the player's attempt to our number. If the player attempts correctly, break from the loop. Otherwise, tell the player if they're closer or farther, and continue asking for attempts.

Some hints:

- it may help to sketch out all possible combinations on paper first!
- you can use the `abs()` function to find the positive difference between two numbers
- if you append all new guesses to the list, then the previous guess is given as `guesses[-2]`

In []:

```
while True:
    # we can copy the code from above to take an input
    pass
```

That's it! You've just programmed your first game!

Good Job!