

EPFL CIVIL-127, Lab 1 solution

1.2

- Can you explain why the while loop in exercise_1_2.py never exits?

Hint: Does the variable inside the loop change?

1.3

- Implement a two-player, text mode number guessing game:

```
# Two-player number guessing game.

# Player 1 picks a number.

# Player 2 keeps guessing. The program tells them if
# their number is too small, too big, or correct.

print("\033c") # clear the screen when the game starts
secret = input("player 1, pick a number between 1 and 100: ")
print("\033c") # clear the screen so player 2 doesn't see player 1's input

done = False
while not done:
    guess = input("player 2, enter your guess: ")
    # ASSUMPTION: `guess` and `secret` are numbers.
    if guess == secret:
        print("You got it!")
        done = True
    if guess < secret:
        print("Too small, try again")
    if guess > secret:
        print("Too big, try again")
```

1.4

- In your previous code, can you think of ways in which the first player can be naughty?
 - Hints:
 - What happens if they pick a huge number?
 - What happens if they pick "Hello"?
 - What happens if they pick "1.234567"?
- Improve your game by counting how many attempts were needed:

We add an `attempts` variable to count how many attempts were made.

```
# Two-player number guessing game.

# Player 1 picks a number.

# Player 2 keeps guessing. The program tells them if
# their number is too small, too big, or correct.

print("\033c") # clear the screen when the game starts
secret = input("player 1, pick a number between 1 and 100: ")
print("\033c") # clear the screen so player 2 doesn't see player 1's input

attempts = 0

done = False
while not done:
    guess = input("player 2, enter your guess: ")
    attempts += 1
    # ASSUMPTION: `guess` and `secret` are numbers.
    if guess == secret:
        print("You got it! Your score:", attempts)
        done = True
    if guess < secret:
        print("Too small, try again")
    if guess > secret:
        print("Too big, try again")
```