

Loops: The name says it all. Loops loop. They run their blocks as many times as you tell them to do so. They are brilliant at repeating tasks. In your “guess the number” game you are using a **while loop**. It repeats 6 times, until the guessesTaken variable is 6. Then the programme leaves the loop and moves on to the first line that is outside the block (not indented anymore).

If your guesser guesses the right number before your loop has looped 6 times, your programme needs to jump out of the loop early. You can jump out of a loop early with a **break** statement.

#Task 10:

Draw a red frame around the while loop.

When the while loop is finished, on which line will the programme go on?

If you only allow 3 guesses in your game, what do you need to change in your while statement?

If your guesser guesses the answer before he has used up all his guesses, your programme needs to jump out of the loop. Can you find and colour the statement that stops the loop before it has run 6 times?

```
# guess the number
import random

guessesTaken = 0

print('Hello! What is your name?')
myName = input()

number = random.randint(1, 20)
print('Well, ' + myName + ', I am thinking of a number between 1 and 20.')

while guessesTaken < 6:
    print('Take a guess.')
    guess = input()
    guess = int(guess)

    guessesTaken = guessesTaken + 1

    if guess < number:
        print('Your guess is too low.')

    if guess > number:
        print('Your guess is too high.')

    if guess == number:
        break

if guess == number:
    guessesTaken = str(guessesTaken)
    print('Good job, ' + myName + '! You guessed my number in ' + guessesTaken + ' guesses!')

if guess != number:
    number = str(number)
    print('Nope. The number I was thinking of was ' + number)
```