Repetition

CMPT 140

Exercise 1

What does this do?

```
1 i = 0
2 while i < 10:
3     print(i)
4     i = i + 1
```

Exercise 2

What does this do?

```
1  screen_size = 220
2  min_square_size = 5
3
4  def setup():
5      global screen_size
6      size(screen_size,screen_size)
7
8  def draw():
9      global screen_size
10     global min_square_size
11     square_size = 200
12     while (square_size >= min_square_size):
13         rect( 0,0,square_size,square_size )
14         square_size = square_size/2
```

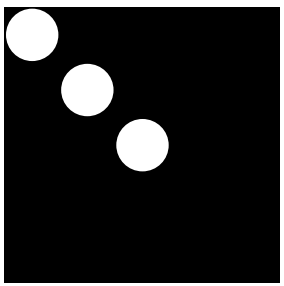
Exercise 3

Write the following **interactive** program.

First, define a variable `n_circles` with an initial value of 3.

Then, draw `n_circles` white circles (diameter 20) in a diagonal line.

- if the user hits '+', increase the number of circles drawn.
- if the user hits '-', decrease the number of circles drawn.



Hint: The formula for determining the ith circle's centre is:

$$(i * 20 + 10, i * 20 + 10)$$

Exercise 4

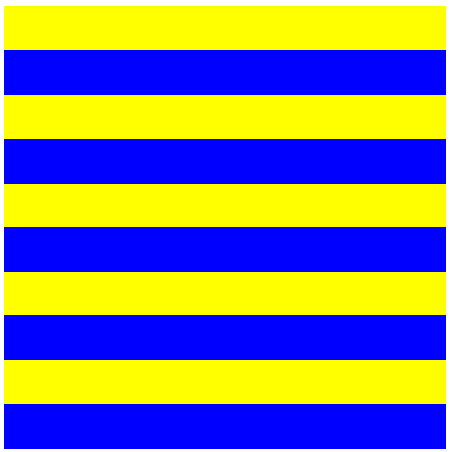
Given the following pre-defined variables:

```
screen_size = 200
total_rows = 10
row_height = screen_size/total_rows
```

Write a program that displays alternating yellow and blue rows.

- the number of rows is equal to `total_rows`
- the height of each row is given by `row_height`
- the first row is yellow

Note: Your program must work for **any value** of `total_rows`!



Demo 1

Beware infinite loops!