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Skill 12.1 Exercise 1

Consider the two types of iteration,

1. *Indefinite iteration*, where the number of times the loop is executed depends on how many times a condition is met.
2. *Definite iteration*, where the number of times the loop will be executed is defined in advance (usually based on the collection size).

Provide an example of each.

Skill 12.2 Exercise 1

Refer to the list below,

```
Categories = ['Music' 'Entertainment' 'Education' 'Shows' 'People & Blogs' 'Sports'  
'Film & Animation' 'News & Politics' 'Gaming' 'Trailers' 'Comedy'  
'Nonprofits & Activism' 'Science & Technology' 'Movies' 'Howto & Style'  
'Pets & Animals' 'Autos & Vehicles']
```

(a) How many print statements would be required to print each element in the list.

(b) You are creating a number guessing game. How many guesses will the user need to guess your secret number?

Skill 12.3 Exercise 1

For each of the following, indicate what is printed. If there is an error, indicate the error.

```
board_games = ["Settlers of Catan",  
"Carcassone", "Power Grid", "Agricola",  
"Scrabble"]  
  
for game in board_games:  
    print(game)
```

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<pre>sum = 0 numList = [1,2, 3, 4, 5] for n in numList: sum = sum + n print(sum)</pre>	
<pre>alpha = "abcdefghijklmnopqrstuvwxyz" count = 0 for letter in alpha: if(count % 2 == 0): print(letter) count += 1</pre>	
<pre>word = "timberline" count = 0 for letter in word: if(letter < "m"): print(letter)</pre>	

Skill 12.3 Exercise 2
<pre>sport_games = ["football", "hockey", "baseball", "cricket"]</pre> <p>Write a for loop that prints each sport in the list <code>sport_games</code>.</p>

Skill 12.4 Exercise 1
<p>Use the <code>range()</code> function in a for loop to <code>print()</code> out the provided <i>promise</i> variable five times.</p> <pre>promise = "I will learn Python loops!"</pre>

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Skill 12.5 Exercise 1

Indicate what is printed,

```
count = 0
print("Start")
while count <= 3:
    # Loop Body
    # Print if the condition is still true
    print("count <= 3 still true")
    # Print the current value of count
    print("Count is " + str(count))
    # Increment count
    count += 1
    print(" ----- ")
print("End")
```

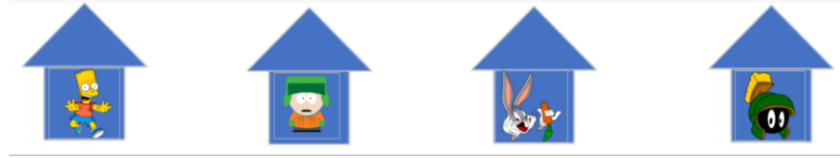
Skill 12.5 Exercise 2

Write a while loop that counts down from 10 to 0 (inclusive). Once the loop is finished print "We have liftoff!".

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Skill 12.6 Exercise 1

Refer to the image below which represents a list called *houses*.



(a) Create a variable *length* and set its value to be the length of *houses*.

(b) Create a variable called *index* and initialize the value to be 0

(c) Write a while loop that prints the following, *<name> lives at address <index>* for each person in the list.

Skill 12.7 Exercise 1

Consider the following code segment.

```
j = 1
while(#Missing Code):
    j = j + 2
```

Which of the following replacements for *#Missing Code* will result in an infinite loop?

- (A) `j != 6`
- (B) `j != 7`
- (C) `j == 7`
- (D) `j > 7`

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Skill 12.7 Exercise 2

The code below does not work as intended. Identify the error, then indicate how you would fix it.

```
16 die = -1
17 while(die !=2 or die != 3):
18     die = random.randint(1, 6)
19     print("You rolled a " + die)
20
21 print("done")
```