Unit 3 -- Review Questions

1. Circle the block that you would use to make this code snippet more flexible:

```
length of  [▼]

[▼] contains  thing

copy of  [F]

index of  thing  in  [F]
```

```
set  index ▼  to  1
set  letters ▼  to  list  a  b  y  f  ◀ ▶
repeat  4
    say  item  index  of  letters
    change  index ▼  by  1
```

2. How could this code be simplified?

```
if    animals ▼  contains  dog   =   true

else
    say  There is no dog :(  for  2  secs
```

3. Do these two pieces of code do the same thing? Why or why not?

```
delete  last ▼  of  letters ▼
```

```
delete  length of  letters ▼   of  letters ▼
```

4. What does the following code return?

```
letter  4  of  iSchool
```

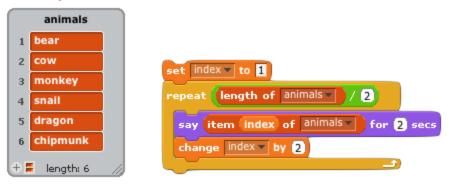5. In the Python script below,

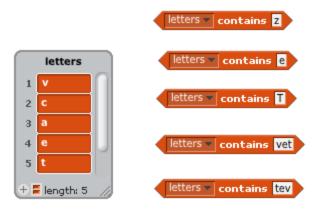   **Circle** the part that is the same as `letters contains letter index of word`

   Box the part that is the same as `length of word`

```python
def can_make_word(word, letters):
    for index in range(len(word)):
        if word[index] in letters:
            letters.remove(word[index])
        else:
            return false
    return true
```

6. Suppose we have a list called animals that looks like the one below. What will the sprite say if you run the following code?

```
set index to 1
repeat (length of animals / 2)
    say (item index of animals) for 2 secs
    change index by 2
```

animals:
1 bear
2 cow
3 monkey
4 snail
5 dragon
6 chipmunk
length: 6

7. Circle the statements that will evaluate to True for the following list of letters.

letters:
1 v
2 c
3 a
4 e
5 t
length: 5

```
letters contains z
letters contains e
letters contains T
letters contains vet
letters contains tev
```

For the next 2 questions use a separate piece of paper or the back of this one.

8. Write out the pseudo code for the "can make [word] from [letters]" function. The function takes two parameters, a word and a list of letters, and returns True if the word can be made from the list of letters and False otherwise.

   You do not need to account for duplicate letters, i.e your function should return True for word "bee" and letters [b, e].

9. Write out the pseudo code for the "find index of [item] in [list]" function. The function takes two parameters, an string and a list. It should return the index of the item in the list. For example, if the item is "A" and the list is [C, A, B], the function should return 2.

10. What are script variables and when should you use them?

11. Review Questions
    a. Which binary number is larger? 1010 or 1100
    b. What is 21 in binary?
    c. What is 10011 in base 10?