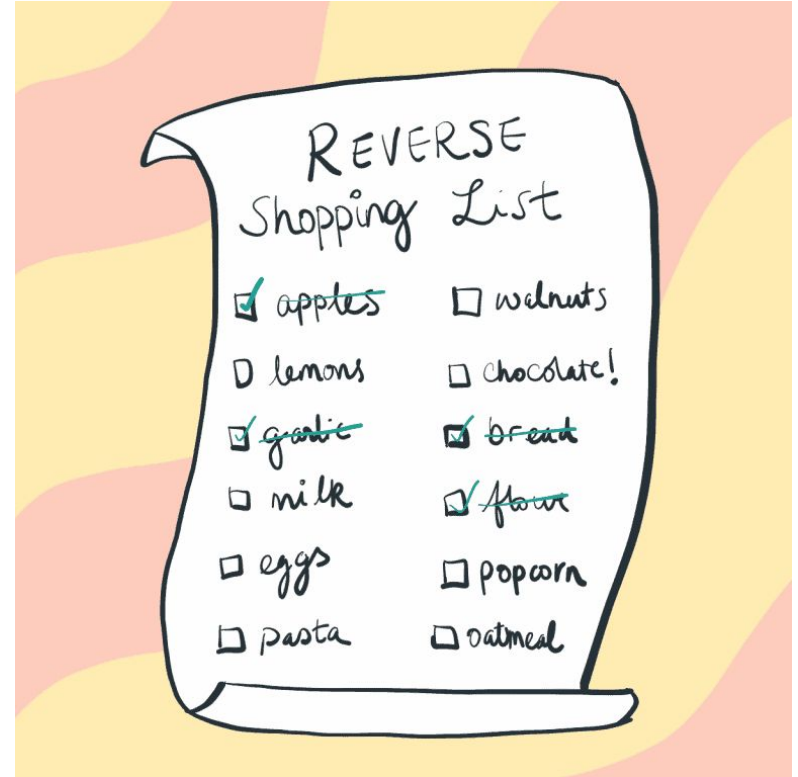


# Lists

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Python

# What are lists?

Lists are used to store multiple items  
in a single variable!



# Creating a list!

Defined by a variable!

```
thislist = ["apple", "banana", "cherry"]
```



Variable for list!

The diagram illustrates the components of the list creation code. A red arrow points from the text 'Variable for list!' to the variable name 'thislist' in the code snippet above. Another red arrow points from the text 'Items in list!' to the opening square bracket '[' of the list, and two additional red arrows branch from this point to point at each of the three string elements: 'apple', 'banana', and 'cherry'.

Items in list!

# How to reference a list

When working with a list, we introduce the topic of **indexes**.

We reference each item by their index.

```
thislist = ["apple", "banana", "cherry"]
```

Index

0

1

2

We always **start counting at 0!**

## How to reference a list

```
thislist = ["apple", "banana", "cherry"]
```

Index

0

1

2

**thislist[0]** prints out the 0<sup>th</sup> value of **thislist**

```
print(thislist[0])  
print(thislist[1])  
print(thislist[2])
```

## How to reference a list

```
thislist = ["apple", "banana", "cherry"]
```

Index

0

1

2

Given the indexes above. We can write the following to print each value out!

```
print(thislist[0])  
print(thislist[1])  
print(thislist[2])
```

Output:

```
apple  
banana  
cherry
```

## Printing an entire **List**

Beyond just printing item by item, we can **print the entire list!**

```
thislist = ["apple", "banana", "cherry"]  
print(thislist)
```

Output of the above:

```
['apple', 'banana', 'cherry']
```

# Sidenote: Random in Python

Below is how you create a random number!

This will be used in the lab

```
import random
print(random.random())      # random number between 0 and 1, inclusive of 0
print(random.randrange(3))  # from 0 to 3, inclusive of 0
print(random.randrange(3,9)) # from 3 to 9, inclusive of 3
```



## Lab: Lists

1. Make a random joke generator!
2. Create a list of 5 different one line jokes!
3. Out of that list of five, generate a random number and print that joke out!