

Learning Goals/Objectives

Be able to read, comprehend, trace, adapt and create

Python code that:

- Outputs one item from a list
- Outputs a whole list
- Changes an item in a list
- Adds an item to a list
- Removes an item from a list

Variable or List?

Variable - stores **one** piece of data with an identifier.

```
player1 = Mary  
player2 = Sean  
player3 = Atif
```

List - stores **more than one** piece of data with the same identifier.

```
players = ["Mary", "Sean", "Atif"]
```

Creating a List - How to Code

1 - Name the list. Use camelCase if it's more than one word.

```
players = ["Mary", "Sean", "Atif"]
```

2 - The = symbol assigns data into the array

3 - All the items in a list are surrounded by square brackets with a comma between each one.

Identifying One Item In A List

```
           0               1               2  
players = ["Mary", "Sean", "Atif"]
```

Output From A List

Output One Item From A List

```
players = ["Mary", "Sean", "Atif"]
```

```
print(players[2])
```

1 - Use the print statement.

2 - Put the name of the list inside the normal brackets.

3 - Put the **index** (number) of the item you want to output **in square brackets**.



Lists and Output

```
players = ["Mary", "Sean", "Atif", "Steve", "Lucy"]
```

```
print(players[3]) + players[4]
```

Task - List Output

```
fruit = ["Apple", "Banana", "Grape", "Strawberry", "Melon", "Orange"]
```

```
# Task 1
```

```
# Add comments to predict what the following lines of code will do.
```

```
# Alter the fourth print command so that it outputs a valid item from the list that  
hasn't yet been used.
```

```
print(fruit[3])
```

```
print(fruit[5])
```

```
print(fruit[0] + " " + fruit[2])
```

```
print(fruit[6])
```

```
# Task 2
```

```
# Write code to output the whole list - you should be able to do this with one line of  
code. abs
```

```
# Task 3
```

```
# Ask the user to input a number between 0 and 5. Output the item in the list that  
matches the number they have input.
```


Change & Edit Items in a List

Change One Item In A List

```
players = ["Mary", "Sean", "Atif"]
```

```
players[0] = "Bill"
```

1 - The item in the list to be replaced

2 - The = symbol used for assignment.

3 - The new data to go into the list.



Lists and Assignment

```
players = ["Mary", "Sean", "Atif", "Steve", "Lucy"]
```

```
players[1] = "Oliver"  
players[2] = "Jane"  
players[3]
```

Task - List Assignment 1

```
# Task 1
```

```
countries = ["UK", "USA", "Chad", "Australia", "Thailand"]
```

```
# Add comments to the code to explain what the following lines do.
```

```
countries[3] = "Mexico"
```

```
countries[0] = "Iceland"
```

```
countries[1] = countries[4]
```

```
# Add comments to predict what the list looks like now.
```

```
# Add a line of code to print the whole list and check your prediction
```

```
# Task 2
```



Task - List Assignment 2

```
# Task 2
```

```
squareNumbers = [1, 4, 9, 16, 25, 36]
```

```
# Add comments to explain what the following lines of code do.
```

```
squareNumbers[5] = 49
```

```
squareNumbers[0] += 1
```

```
total = squareNumbers[3] - squareNumbers[1]
```

```
# Add comments to predict what the list looks like now.
```

```
# Add a line of code to print the whole list and check your prediction
```

Add & Remove Items From A List

Add & Remove From A List

```
players = ["Mary", "Sean", "Atif", "Steve", "Lucy"]
```

```
players.append("Deen")
```

```
players.pop(2, "Julia")
```

Task - Add & Remove From A List 1

```
# Task 1
```

```
food = ["bacon", "cheese", "pasta", "beans"]
```

```
# Add comments to explain wht the following lines of code do.
```

```
food.append("tomatoes")
```

```
food.insert(1, "ice cream")
```

```
food.remove("cheese")
```

```
food.pop()
```

```
# Add a comment to predict what the list looks like open
```

```
# Write code to print the whole list. Was your prediction correct?
```


Task - Add & Remove From A List 2

```
videoGames = ["Mario", "Sonic", "Joust", "Zelda"]
```

```
#Task 2
```

```
# Write code to perform the following tasks.
```

```
# Add 'Minecraft' to the start of the list.
```

```
# Ask the user to input a number between 0 and 4 and store it in a variable.  
Output the item at this position in the list.
```

```
# Ask the user to input the name of a video game and store it in a variable.  
If this video game is in the list then remove it from the list. If it isn't  
in the list then add it to the end.
```

Task - Independent Challenge

Create an array called 'names' that stores five names in it (you choose the names).

Ask the user what their name is, store their input in a variable.

Ask the user to enter a number between 0 and 4. Store their input in a variable.

Replace the data at the position that matches the number entered by the user in the names array with their name.

Find An Item In A List

Find An Item In A List

```
players = ["Mary", "Sean", "Atif", "Steve", "Lucy"]
```

```
if "Atif" in players:
```

Run this code

Homework Challenge - Beat The Zombie!

Create a list of possible weapons.

In a variable called 'zombieWeakness' store the name of one of the weapons from the list.

Output messages telling the user that they have encountered a zombie and should prepare to fight.

Output the list of weapons to the user. Ask if they want to type 1 to use one from the list or 2 to pick their own. If they type 1 then they should input the weapon name - store it to a new variable. If they type 2 they should input the weapon name - add it to the list and save it to a new variable.

If the weapon picked matches the zombieWeakness, output a message telling the user that they have won the fight. Otherwise output a message saying that they have lost.

