# Worksheet 5a Using lists

**Task 1**

1. DO NOT RUN THIS PROGRAM YET!
Predict the output you would see if you were to run this program.

friends = ["Fred","Paul","George","Ringo"]
print("One of my friends is called ",friends[1])

Prediction:

Now type up the program and test if you were correct.

1. Alter the program so that it will print out “Ringo” instead.
(Note: You must use the list to do this, don’t cheat and just write in “Ringo”!)
2. The first name in the list is wrong.
Add a new line to the program that will change the first name from “Fred” to “John”.
Add this line to the very end of the program so that you can see if it has worked.

friends = ["Fred ", "Paul ", "George","Ringo"]
#add line here

print(friends)

1. The following code will create an empty list of 4 names, then ask the user for a name to place in the list. The last line is just there so we can see what the list looks like at the end.

friends = [None] \* 4
name = input("Enter the name of a friend: ")
friends[0] = name

print(friends)

Add more code that will ask the user for more names to complete the list. The last line should still print the complete list out.

1. Write a program for a takeaway restaurant. It should start by asking the user to enter 5 dishes that they sell. The program should then print out the list of dishes so the user can check it is right.

1. Add to the previous program so that, once finished, the user should be asked to enter a number for which dish they want. The program should then print out the name of the dish they have chosen.
Hint: Remember to use int(input(…))

**Extension:**

Write a program for a cinema to keep a list of the latest films being screened. The program should start by presenting the user with a menu:

1. Reset list
2. View entire list
3. View one item
4. Edit list
5. Quit

Option 1 should create a blank list of 6 films.

Option 2 should print the entire list in one go.

Option 3 should ask which item the user wants to see (by number) and display that film.

Option 4 should ask the user which item they want to change and what film they want to replace it with. The program should then replace that item.

Option 5 should exit the program.

The program should repeat (using a WHILE loop) until the user chooses option 5.

**Task 2**

|  |  |
| --- | --- |
| **Method** | **Description** |
| append(value) | Add a new value to the end of a list |
| insert(index,value) | Inserts a value at a point in the list and moves other items along one |
| list[index]=value | Changes the list value at a given index |
| pop(index) | Removes a particular index value from a list |
| pop() | Removes the last index value from a list |
| remove(value) | Removes a given value from a list |

Use the blank trace table below to work out the value of the list at each line of the program.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **List index** | **0** | **1** | **2** | **3** | **4** | **5** | **6** |
| word =["b","e","a","k"] |  |  |  |  |  |  |  |
| word[3] = "n" |  |  |  |  |  |  |  |
| word.append("s") |  |  |  |  |  |  |  |
| word[3] = "d" |  |  |  |  |  |  |  |
| word.insert(1,"r") |  |  |  |  |  |  |  |
| word[0] = "t" |  |  |  |  |  |  |  |
| word.remove ("t") |  |  |  |  |  |  |  |
| word[1] = "o" |  |  |  |  |  |  |  |
| word.pop() |  |  |  |  |  |  |  |
| print(word) |  |  |  |  |  |  |  |