

# Starter - Lists

These tasks are designed to refresh the reading and research you have undertaken at home prior to this lesson. If you have not completed the R&R assignment then please speak to your teacher before attempting these exercises.

## Task 1 - Dry Run

The following algorithm uses an array Values containing four numbers.

### Index Value

1	24
2	13
3	57
4	45

```
Result ← 0
Index ← 0
Repeat
    Index ← Index + 1
    If Result < Values[Index]
        Then Result ← Values[Index]
    EndIf
Until Index = 4
```

1. Dry run this algorithm by using the trace table below.

### Result Index

24	1
24	2
57	3
57	4

1. What is the purpose of this algorithm?: **To calculate the highest number from a list of numbers**

## Task 2

Check and comment on the Python code snippet given below **without** running the code in IDLE.

```
shopping_list = []
finished = False
while not finished:
    shopping_item = input("Enter next item (-1 to end list): ")
    if shopping_item == "-1":
        finished = True
    else:
```

```
shopping_list.XXXX(shopping_item) #add new item to the list
```

```
for index in range(len(shopping_list)):
    print("item {0} is {1}".format(index, XXXX))
```

1. Replace the 2 slots above containing 'XXXX' with the correct python code.

- Append
- Shopping item

1. What messages will the user see as the program runs if they enter as input :

Peas:nothing

Carrots:nothing

Ham: nothing

-1:(user will see nothing as program has ended)

2. Suggest improvements to the program:

change

```
for index in range(len(shopping_list)):
    print("item {0} is {1}".format(index, XXXX))
```

to

```
for index,shopping_item in enumerate(shopping_list):
    print("{0}. {1}".format(index, shopping_item))
```

1. Now key in this python program with your improvements incorporated and test it .

## Task 3

Convert the pseudo-code in task 1 to python code and run and test it. Do this as follows:

1. Set the list values to those shown in the question and output the value of 'result' at the end of the program run.
2. Write down your expected result for the program run and then test it

**Expected Result Does it work? (Y/N)**

57

Y