



THE UNIVERSITY OF THE WEST INDIES

Department of Computing

COMP4620 - Programming Principles

Lab 3 – Iteration

Question 1

Write a recursive function **max_el** to find the maximum element in a **list** of **integers**.

```
>>> max_el([1,3,533,55,2])
533
>>> max_el([21,5,66,55,54])
66
```

Question 2

Write a function **strength_check** that accepts a **string** as a **parameter** and keeps prompting until they enter a strong password. A strong password **contains at least 8 characters**, including **uppercase letters**, **lowercase letters**, **numbers**, and **special characters**. Use a **while loop** for input validation.

```
>>> strength_check("Password")
Too weak, try again:

>>> strength_check("Vp9tLv$VY*EfEb$H")
Password Accepted

>>> strength_check(xe8wzxKxyRTvyeh6)
Password Accepted
```

Question 3

Using a **for** loop write a python function **rev_int** that takes an **integer** as a **parameter** and reverses its digits. For example, if the input is **12345**, the output should be **54321**.

```
>>> rev_int (1825)
5281
```

Question 4

Using any iterative method that you prefer, write a function called **palindrome** that accepts a **string** as a **parameter** and checks **if** that word entered is a palindrome (reads the same backward as forward).

```
>>> palindrome ("Hope")
No!
>>> palindrome ("Radar")
Yes!
```

Question 5

Write the same function **palindrome** as in the previous question, but now, do it **recursively**.

```
>>> palindrome ("Hope")
No!
>>> palindrome ("Radar")
Yes!
```

How to turn in this Lab

1. Save your python file.
2. Ensure that your file name follows this pattern:
 - Lab1_<Your First Name>_<Your Last Name>_<Your ID Number>.py ▪E.g. Lab1_Jane_Doe_642276142.py

3. Submit your single python (.py) file via the submission link on **VLE**.