IT5001 Quiz 2 Name:_____ Student Number: A_____

(Deduct 5 marks if your student number is not correct.)

Question 1 Expression Evaluations [25 marks]

Evaluate the following terms. If we type them into the shell, what will be the output or echo from IDLE? If any of these causes an error, please write "error" instead. The type of your answer is important, e.g. the integer `5` is different from `'5'` or `5.0`.

Evaluate the Followings:	Answer:
`tuple('abc')`	
`[1,2,3,(4,5,(6))][3][2]`	
`str(('a','b','c'))`	
`(1,2,3,4)[1:2]`	
`'abcde'[2:100:2]`	

Question 2 Code Tracing [25 marks]

Each piece of code is a separate program/file. What is the output of each of them when we run it? If the code produces errors or runs into an infinite loop, please state 'error' or 'infinite loop' respectively.

Code	Answers:

`def f(l):`
`  return l[:-2]`
`print(f(f([1,2,3,4,5,6][::-1])))`	

`def f(y):`
`  return x: x + y`
`print(f(1)(2))`	

`def foo(x,y):`
`  return lambda a,b: x*y + a*b`
`print([foo(1,2)(3,4)])`	

`def f(l):`
`  return l[:len(l)/2]`
`print(f(f([i+1 for i in range(20)])))`	

`def f(x):`
`  return lambda y : (y,x)`
`print (f(f(1)(2))(3))`	

Question 3 Palindrome List [25+25]

A *palindrome* is a sequence that is equal to its reverse. Given any sequence (string, list or tuple), your task is to write a function to convert that sequence into a palindrome list. Here are two examples:

```
>>> print(palindromeListR('abcd'))
['d', ['c', ['b', ['a'], 'b'], 'c'], 'd']

>>> print(palindromeListR((1,2,3)))
[3, [2, [1], 2], 3]
```

You can assume the input sequence is non-empty.

Question 3a

Write a recursive version of the function `PLR` (stands for `palindromeListR`):

```
def PLR (seq):
```

Question 3b

Write an iterative version of the function `PLI` (stands for `palindromeListI`):

```
def PLI (seq):
```