LAB 9: Tuple

Part A: Learning Tuple

Different types of tuple

1. Generate the output from the following program:

```
# Empty tuple
tuple = ()
print(tuple)

# Tuple with integer value
tuple = (1, 2, 3)
print(tuple)

# Tuple with different datatypes
tuple = (1, "Tuple", 3.7)
print(tuple)

# nested tuple
tuple = ("cat", [100, 98, 65], (1, 2, 3))
print(tuple)
```

Tuple with One Element

```
ex1 = ("hello")
print(type(ex1))

ex2 = ("hello",) # creating tuple with 1 element
print(type(ex2))

ex3 = "hello", #creating tuple without parenthesis
print(type(ex3))
```

Accessing Tuple Element

1. **Use Index**

```
# Accessing tuple elements using indexing
characters = ("p", "y", "t", "h", "o", "n")

print(characters[0])
print(characters[5])
```

2. **Negative index**

```
# Accessing tuple elements using indexing
characters = ("p", "y", "t", "h", "o", "n")

print(characters[-1])
```

```
print(characters[-3])
```

3. **Slicing**

```
# Accessing tuple elements using slicing
tuple=("p", "y", "t", "h", "o", "n")


print(tuple[1:4])

print(tuple[:-5])

print(tuple[3:])

print(tuple[:])
```

Part B: Test yourself!

1. You were given a tuple with elements (2, 4, 5). You want to generate a total value from the tuple elements. Write a Python program to unpack the tuple into several variables and display the total value.
2. You were given a tuple named turtle = (1, “Hello”). Write a python program to
    a. Add on item 5 using +
    b. Add on item “single” using append ().
3. Write a Python program to convert a tuple of characters into a string.
4. Write a Python program to convert a list into tuple.
5. Write a Python program to check if the element exists between a tuple.
6. Given: tuple = (23, 45, 65, 78, 98, 9, 45, 56, 43). Write a Python program to reverse this tuple.