Lesson4 

**[1] Question 1**

Write a function called accept login(users, username, password) with three parameters: users a dictionary of username keys and password values, username a string for a login name and password a string for a password. The function should return True if the user exists and the password is correct and False otherwise. Here is the calling code, test your code with both good and bad passwords as well as non-existent login names:

users = {

"user1" : "password1",

"user2" : "password2",

"user3" : "password3"

}

if accept\_login(users, "wronguser", "wrongpassword") :

print("login successful!")

else :

print("login failed...")

**[2] Question 2**

When the condition for the while loop requires a lot of code, it is sometimes more readable to loop forever and explicitly use the break keyword. Fix the following code to do this:

attempts = 0

while True :

response = input("Do you want to quit? (y/n): ")

attempts += 1

print("Exiting after", attempts, "attempts")

**[3] Question 3**

In bioinformatics a k-mer is a substring of k characters from a string that is longer than k (see *https://en.wikipedia.org/wiki/K-mer* for details). Write a function with two parameters: a string containing DNA and the value of k. Return a dictionary of k-mer counts.

**[4] Question 4**

Write a Python program to replace last value of tuples in a list

Sample list: [(1, 2, 40), (0, 15, 60), (10, 80, 0)]

Expected Output: [(1, 2, 100), (0, 15, 100), (10, 80, 100)]

**[5] Question 5**

Write a function selection sort that takes a list as an argument, sorts the list using

selection sort, and returns the sorted list. Use your function to write a program that sorts the following list and prints the output to the screen: [4, 8, 1, 3, 2, 9, 5, 7, 6].

**[6] Question 6**

Write a Python class which has two methods get\_String and print\_String. get\_String accept a string from the user and print\_String print the string in upper case.

**[7] Question 7**

Write a Python class named Rectangle constructed by a length and width and a method which will compute the area of a rectangle.

**[8] Question 8**

Write a class Car. The Car class contain the attributes brand and maxSpeed, and the methods setBrand(), setMaxSpeed() and printData().

Create a Car object, e.g. an Audi with maxSpeed 200 km/h.

**[9] Question 9**

Simulate a fast-food ordering scenario by defining four classes:

Lunch: a container and controller class

Customer: the actor that buys food

Employee: the actor that a customer orders from

Food: what the customer buys

**[10] Question 10**

Write a program that uses the turtle to print out your name. If your name is very long, then just print out your initials. Make guesses for the angles you have to turn, run your program and adjust as necessary.