Make sure you have the tutorial open when answering the following questions. All of the questions in this module use the Python Tutorial at:

* <http://www.letslearnpython.com/learn/>

Note: You should use the black area of Repl to try the simple Python expressions listed in the questions below.

**Lesson 8: Lists – A Collection of Objects**

**B.6**

1.   What is a list in Python? Explain in words and provide an example.

It is a collection of things

2.   Create a list of your favorite sports teams.

a.       Assign your list to a variable. Called “myTeams”

myTeams  = ["Raptors", "Ferrari", "McLaren"]

b.       Use the command print(myTeams) to confirm that your variable and your list are the same.

type (myTeams)

3.   Add a team to your list using “+”.

a.       Verify that + can be used to add to lists

Yes it can be used

b.       Write you Python code below

myTeams  = ["Raptors", "Ferrari", "McLaren" + "Spurs"]

4.   Create a list containing your favorite colour, your favorite number, and the name of someone you know. Show how to write this list in Python code below.

                     myFavourite = (“Purple”, “Six”, “Katie”)

5.   Do Python lists have to contain elements that are all the same data type? Answer True / False.

No

**Lesson 8: Lists – List Indexes**

1.       What is the value of myTeams[0]? (Assuming that you have created a list of your favorite sports teams in the previous questions.)

Raptors

2.       What is the list index of the last team in your list of favorite sports teams? Provide the Python code below.

McLaren, 2

3.   Compare Python lists to Python strings.

a.       How are lists and strings similar?

                                                               i.      They both involve words

b.       How are they different?

                                                               i.      Lists refers to a series of words whereas strings refer to one word.

4.   In the tutorial, why does typing “fruit[3]” produce an error?

This occurs because there is no fourth item in the list.

**Lesson 10: Loops – Counted Loops**

1.       Use a counted loop to print out your list of favorite sports teams. Provide your code below.

a.       What is the function of “in”

                                                               i.      It tells the system to use the numbers within the data.

2.   Compare Counted Loops to Conditional Loops.

a.       How are they similar?

                                                               i.      They both repeatedly count upward or downward

b.       How are they different?

Counting loops repeat a for a certain time whereas conditional loops keep going until a certain thing occurs (or as long as some condition

Pepper

Answer the following questions using the resources listed above. Submit your answers to GitHub.

1.       Who is Pepper?

a.   Who does Pepper work for?

                                                               i.        HSBC

b.   What can Pepper do?

                                                               i.      Pepper books appointments, offers information and dances

2.       How is Pepper expected to help HSBC?

a.   List some general expectations.

                                                               i.      The bank expects Pepper to revolutionize the efficiency of customer satisfactory, job growth, and efficiently

b.   Provide a specific example.

                                                               i.      He can book appointments, answer questions, and dance

3.       How is Pepper an example of Artificial Intelligence? (Google Artificial Intelligence for a

definition of AI.)

AI is defined as the simulation of human emotions and actions. This shows that Pepper is an AI as he too simulates human activities and feelings.

4.       Why are some people concerned that AIs like Pepper will take away jobs from humans?

a.   List some general concerns.

                                                               i.      50% of the current work will be taken over by AIs

b.   Provide a specific example of a human job at HSBC that could be replaced by Pepper.

                                                               i.      A banker, a receptionist

5.       Why do some people say that AIs like Pepper will create better jobs for humans?

a.   Provide an example where Pepper may actually create more human jobs at HSBC.

                                                               i.      This may create more human jobs as it will need someone to look after and clean the robot. Also, if the robot breaks down, they will need a technician to fix Pepper. Moreover, people will need humans to build the robots.

b.   Provide an example where Pepper may make jobs at HSBC more rewarding for humans.

                                                               i.      Because there are less people working at a bank, the few humans working there will be paid more money since there are less people to pay.

6.       Who do you believe: the people who say AIs will take away jobs or the people that say AIs will create better jobs? Justify your answer with specific examples.

                                                               i.      I believe that AIs will take away jobs from people because manufactures and CEOs need to find workers who are replaceable, require little pay, and are extremely excellent at their job, so they will turn to robots for maximum production. As a result, they will turn to robots and AIs as employees and workers.

Code Cracker

import time

startTime = time.time()

loopCount = 1

while (loopCount <= 1000) :

 loopCount = loopCount + 1

userPin = int(input('\u001b[35m'"Please enter a 4 digit PIN: "))

pin2 = userPin - 1

if (userPin < 10000) and (userPin > 1000) :

 if (userPin == 1111) or (userPin == 1000) or (userPin == 1234) or (userPin == 2004) or (userPin == 9999) or (userPin == 6666) or (userPin == 0000) or (userPin == 2019) :

    if (userPin == 1111) :

        print ('\u001b[36m'"Your pin is 1111")

    if (userPin == 1000) :

        print ('\u001b[36m'"Your pin is 1000")

    if (userPin == 1234) :

        print ('\u001b[36m' "Your pin is 1234")

    if (userPin == 2004) :

         print ('\u001b[36m'"Your pin is 2004")

    if (userPin == 9999) :

        print ('\u001b[36m'"Your pin is 2000")

    if (userPin == 6666) :

        print ('\u001b[36m'"Your pin is 6666")

    if (userPin == 0000) :

        print ('\u001b[36m'"Your pin is 3000")

    if (userPin == 2019) :

        print ('\u001b[36m'"Your pin is 4000")

 else :

     count = 1

     while (True) :

      print ('\u001b[36m'"Get ready", count)

      if (count >= pin2) :

        break

      else :

         count = count + 1

print ("Your pin is",userPin)

endTime = time.time ()

print('\u001b[31m'"Elapsed time is:", (endTime - startTime))

Rias Code

import time

startTime = time.time()

loopCount = 1

while (loopCount <= 1000) :

 loopCount = loopCount + 1

customerPin = int(input('\u001b[35m'"Please enter a 4 digit PIN: "))

pin2 = customerPin - 1

if (customerPin < 10000) and (customerPin > 1000) :

 if (customerPin == 1111) or (customerPin == 1000) or (customerPin == 1234) or (customerPin == 2004) or (customerPin == 9999) or (customerPin == 6666) or (customerPin == 0000) or (customerPin == 2019) :

    if (customerPin == 1111) :

        print ('\u001b[36m'"Your pin is 1111")

    if (customerPin == 1000) :

        print ('\u001b[36m'"Your pin is 1000")

    if (customerPin == 1234) :

        print ('\u001b[36m' "Your pin is 1234")

    if (customerPin == 2004) :

         print ('\u001b[36m'"Your pin is 2004")

    if (customerPin == 9999) :

        print ('\u001b[36m'"Your pin is 2000")

    if (customerPin == 6666) :

        print ('\u001b[36m'"Your pin is 6666")

    if (customerPin == 0000) :

        print ('\u001b[36m'"Your pin is 3000")

    if (customerPin == 2019) :

        print ('\u001b[36m'"Your pin is 4000")

 else :

     count = 1

     while (True) :

      print ('\u001b[36m'"Get ready", count)

      if (count >= pin2) :

        break

      else :

         count = count + 1

print ("Your pin is",customerPin)

endTime = time.time ()

print('\u001b[31m'"Elapsed time is:", (endTime - startTime))