

LBYCPA1 PROJECT

PROGRESS REPORT 02

Period Covered by the Report: March 11, 2020 to May 9, 2020

1. Project title : A Personalized Learning Management System for Programming in Python (PL4Python)

2. Project Members :

	Name	Student ID	Degree Program
1.	John Erwin S. Bisa	11932740	BSCpE
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3. Project-related activities done (attach additional sheets if necessary):

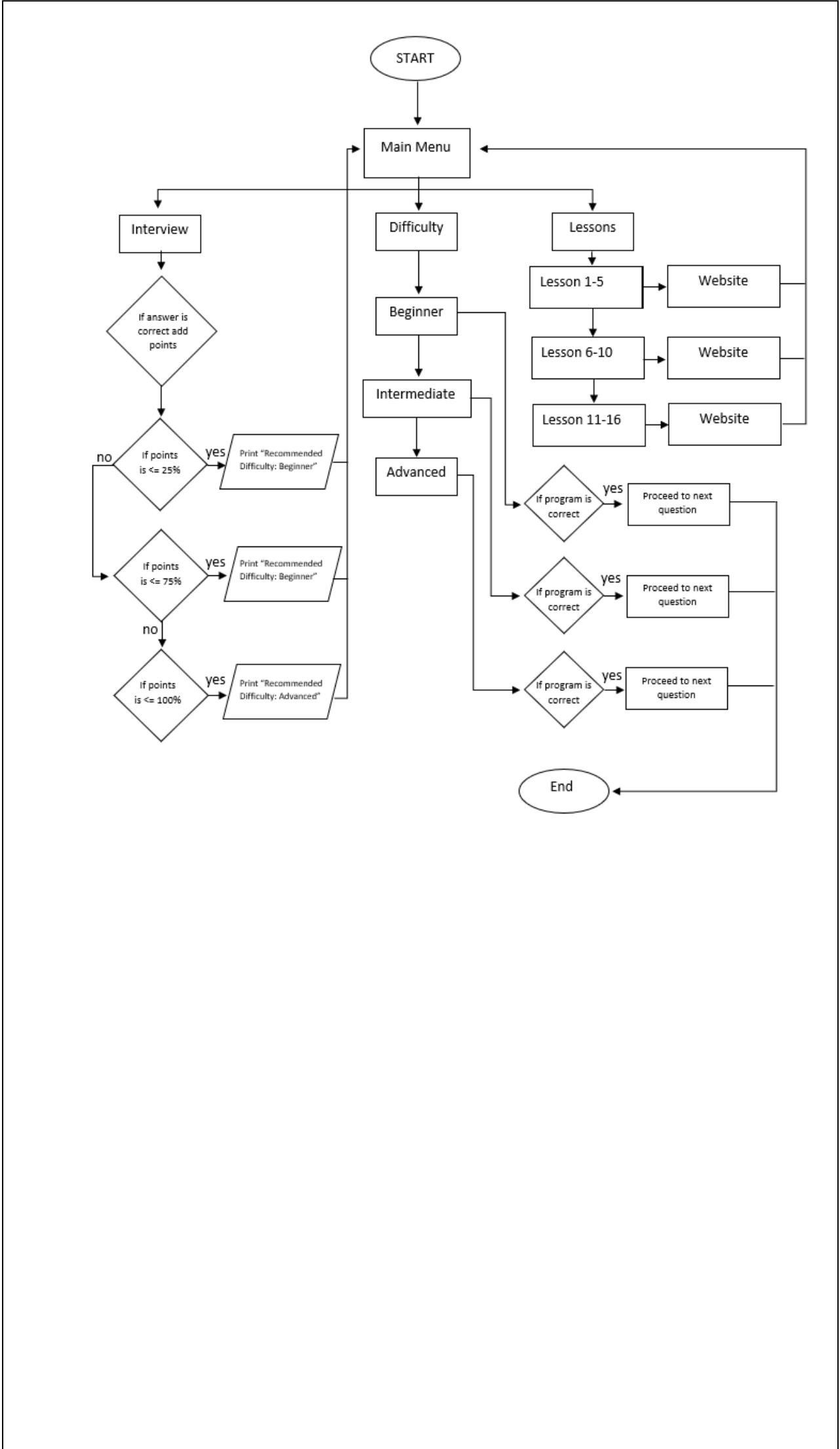
- Learned Tkinter
- Experimenting Tkinter
- Designed the layout of the program's GUI
- Deciding the lessons to be taught
- Deciding how difficult the problems are. (Beginner, Intermediate, Advanced)
- Making problem sets for the users/students to solve
- Making an answer key for the problem sets
- Writing the codes for the program
- Making a name for the program (PL4Python – Personalized Learning for Python)
- Writing required documents for this project
 - Project Documentation in IEEE Format
 - Project Progress Report
- Debugging the program
- Testing the program and checking for typos
- Proofreading the documents to be submitted.
- Preparing the requirements for submission.
 - Project Documentation
 - Project Progress Report
 - Program / Codes

4. Problem/s encountered and corresponding action undertaken:

- Encountering errors in Jupyter Notebook, when trying to use Tkinter
 - Used PyCharm instead
- How the students can code, and how to check it.
 - Students can code using their coding program of their choice
 - PyCharm
 - Jupyter Notebook
 - Notepad
 - Online Alternatives
 - Checking the student's code
 - Assert function in Python
 - Importing the student's code in this program

INPUT – PROCESS – OUTPUT (IPO) FLOWCHART
VERSION 01

Input	Process	Output
<ul style="list-style-type: none">Interview Answers	<ul style="list-style-type: none">Answers are graded by a point system and computed to get percentage of a person’s knowledge in coding.	<ul style="list-style-type: none">Determine the difficulty suggested to the user.
<ul style="list-style-type: none">Problem Set Code Answers	<ul style="list-style-type: none">Code will be checked for errors and syntax.	<ul style="list-style-type: none">Allow the user to proceed to the next problem.



PROGRAM SCREENSHOTS (INPUT AND OUTPUT SCREENSHOTS)

Main Menu:

PL4Python

Welcome to PL4Python

Learn Python Easily

Recommend Difficulty

Interview

Difficulty of Problem Sets

Beginner

Intermediate

Advanced

Lectures

Introduction

For Problem Set 1

For Problem Set 2

For Problem Set 3

Problem Set Selection:

Select Problem Set

Problem Set 1

Problem Set 2

Problem Set 3

Beginner – Beginner Set 1 (Part 1) with Correct Answers Prompt

Pro...

Problem 1: Return "Hello World"

Your answer: `return "Hello World"`

Problem 2: Print "Python"

Your answer: `print("Python")`

Tips

Check the Answers

Result

i

Correct Answers, proceeding to the next problem.

OK

Beginner – Problem Set 1 (Part 2)

Problem Set 1 - Beginner

Problem 3:

Write a program that returns "Hello World"

The program should also be in a module named "X"

Please put your program (.py file) in the "ProblemSets" folder, and name your file as "ProblemSet1Problem3"

Tips

Check the Answer

Beginner – Problem Set 1 (Part 3)

Problem Set 1 - Beginner

Problem 4:

If a plus b is c, how do you write this in Python? [Addition]

Your answer:

If a minus b is c, how do you write this in Python? [Subtraction]

Your answer:

If a multiplied to b is c, how do you write this in Python? [Multiplication]

Your answer:

If a divided by b is c, how do you write this in Python? [Division]

Your answer:

Tips

Check the Answer

Beginner – Problem Set 1 (Part 3) with Correct Answers & Completed Problem Set 1 Prompt

Problem Set 1 - Beginner

Problem 4:

If a plus b is c, how do you write this in Python? [Addition]

Your answer:

If a minus b is c, how do you write this in Python? [Subtraction]

Your answer:

If a multiplied to b is c, how do you write this in Python? [Multiplication]

Your answer:


If a divided by b is c, how do you write this in Python? [Division]

Your answer:

Tips

Check the Answer

Result

 Correct answers, Problem Set 1 Complete

OK

Beginner – Problem Set 2

Problem Set 2 - Beginner

Problem 1A: If a modulo b is c, how do you write this in Python? [Modulo]

Your answer:

Problem 1B: If a squared is b, how do you write this in Python? [Square]

Your answer:

Problem 2A: Create a list and put it in a variable named "my_list", the values of the list are: 2,4,6,8,and 10 respectively.

Your answer:

Problem 2B: Call the first element or item of the list you previously made.

Your answer:

Problem 2C: Use the "len" function to give the number of elements in the list you previously made (my_list).

Your answer:

Problem 2D: Write a program that is an integer data type with the variable "num1"

Your answer:

Problem 2E: Write a program that is a float data type with the variable "num2"

Your answer:

Problem 2F: The variable "a" must be declared as a "global variable"

Your answer:

Problem 3: Return the palindrome of the given string. The string is "message"

*Palindrome means the reverse of a word or string. Ex: Palindrome of "hello" is "olleh".

Your answer:

Tips

Check the Answer

Beginner – Problem Set 3

Problem Set 3 - Beginner

In this problem set, lets use a python interpreter, ex. PyCharm, Jupyter Notebook, etc.

Please put your program (.py file) in the "ProblemSets" folder, and name your file as "ProblemSet3"

Problem 1:

Write a program that returns a character or string that is repeated by a specific value

It must be on a module with arguments. Arguments must be in this order: character, number of times repeated

Default value for the character is "A" and default number of times is 5

This problem must be in a module named "problem1"

Problem 2:

Write a program that modulus a number, only by using addition, subtraction, multiplication, or division.

While loops/statements can only be used.

This must be on a module with arguments, and the module named "modulo", and if "a modulo b" the arguments should be "(a,b)"

Problem 3:

Import "numpy"

Write a program that square roots the given numbers using Numpy

This must be in a module with arguments, and the module named as "importing"

Problem 4:

Write a program that finds and counts the word "right" from the given paragraph.

The program should find and count the word regardless of case or capitalization.

Use If statements, for statements, and membership operators only

It must be on a module named "Paragraph"

Problem 5A:

Write a program that creates a text (.txt) file. File name should be "creating"

The file must contain the given paragraph

It must be in a module named "creating"

Problem 5B:


Write a program that reads the text (.txt) file created from the previous problem and return the contents of the file.

It must be in a module named "accessing"

Tips

Check the Answer

Intermediate – Problem Set 1

 Problem Set 1 - Intermediate

Problem 1:

Write a program that returns "Hello World"

It must be in a module named "X"

Problem 2:

Write a program that prints and return "Python!!!"

It must be in a module named "program"

Problem 3:

Write a program that can add the given values, and return it. [module name: add]

Write a program that can subtract the given values, and return it. [module name: subtract]

Write a program that can multiply the given values, and return it. [module name: multiply]

Write a program that can divide the given values, and return it. [module name: divide]


All of the above must be in their own module with arguments. Ex. "a+b" --> "add(a,b)"

Please name your program (.py file) as "ProbSet1"

Tips

Check the Answer

Intermediate – Problem Set 2

 Problem Set 2 - Intermediate

Problem 1:

Create a module with arguments that can modulo the given values, and return it. [module name: modulo]

Create a module with arguments that squares the given value, and return it. [module name: squared]

Problem 2:

Create a module named "lists"; it must return a list with 5 integers, the integers are: 2, 4, 6, 8, and 10, respectively. The list must be declared as a global variable.

Create a module named "y", then call the 1st element from the list you made in previous item.

Create a module named "lengths"; use the "len" function return the number of elements from the list you made in previous item.

Create a module named "num1", it must return an integer data type.

Create a module named "num2", it must return a float data type.

Problem 3:

Write a Python program that returns the palindrome of the given string.

It must be in a module with arguments, module must be named "palindrome"

Palindrome means the reverse of a word or string. Ex: Palindrome of "hello" is "olleh".

Please name your program (.py file) as "ProbSet2"

Tips

Check the Answer

Problem Set 3 - Intermediate

Problem 1:

Create a module that returns a character or string that is repeated by a specific value
It must be on a module with arguments.
Arguments must be in this order: character, number of times repeated, respectively.
Default value for the character is "A" and default number of times is 5
This problem must be in a module named "problem1"
Use for statements only

Problem 2:

Write a program that modulus a number, only by using addition, subtraction, multiplication, or division.
While loops/statements can only be used.
This must be on a module with arguments, and named "modulo"
Arguments must be in this order: dividend, divisor.

Problem 3:

Create a module that returns square roots the given numbers using Numpy
This must be in a module with arguments, and the module named as "importing"

Problem 4:

Create a module that finds and counts the word "right" in the given paragraph, and return the result.

Paragraph in here

Use "If" statements & "for" statements only
The program should also find and count the word regardless of case or capitalization.
It must be on a module named "Paragraph"

Problem 5A:

Create a module that creates a text (.txt) file.
The contents of the file is a paragraph.

Paragraph in here

It must be in a module named "creating"

Problem 5B:


Create a module that reads the text (.txt) file created from the previous item and return the contents of the file.
It must be in a module named "accessing"

Please name your program (.py file) as "ProbSet3"

Tips

Check the Answer

Advanced – Problem Set 1

 Problem Set 1 - Advanced

Problem 1:

Write a program that returns "Hello World"

It must be in a module named "X"

Problem 2:

Write a program that prints and return "Python!!!"

It must be in a module named "program"

Problem 3:

Write a program that can add the given values, and return it. [module name: add]

Write a program that can subtract the given values, and return it. [module name: subtract]

Write a program that can multiply the given values, and return it. [module name: multiply]

Write a program that can divide the given values, and return it. [module name: divide]


All of the above must be in their own module with arguments. Ex. "a+b" --> "add(a,b)"

Please name your program (.py file) as "ProbSet1"

Tips

Check the Answer

Advanced – Problem Set 2

 Problem Set 2 - Advanced

Problem 1:

Create a module with arguments that can modulo the given values, and return it. [module name: modulo]

Create a module with arguments that squares the given value, and return it. [module name: squared]

Problem 2:

Create a module named "lists"; it must return a list with 5 integers, the integers are: 2, 4, 6, 8, and 10, respectively. The list must be declared as a global variable.

Create a module named "y", then call the 1st element from the list you made in previous item.

Create a module named "lengths"; use the "len" function return the number of elements from the list you made in previous item.

Create a module named "num1", it must return an integer data type.

Create a module named "num2", it must return a float data type.

Problem 3:

Write a Python program that returns the palindrome of the given string.

It must be in a module with arguments, module must be named "palindrome"

Palindrome means the reverse of a word or string. Ex: Palindrome of "hello" is "olleh".

Please name your program (.py file) as "ProbSet2"

Tips

Check the Answer

Problem Set 3 - Advanced

Problem 1:

Create a module that returns a character or string that is repeated by a specific value
It must be on a module with arguments.
Arguments must be in this order: character, number of times repeated, respectively.
Default value for the character is "A" and default number of times is 5
This problem must be in a module named "problem1"
Use for statements only

Problem 2:

Write a program that modulus a number, only by using addition, subtraction, multiplication, or division.
While loops/statements can only be used.
This must be on a module with arguments, and named "modulo"
Arguments must be in this order: dividend, divisor.

Problem 3:

Create a module that returns square roots the given numbers using Numpy
This must be in a module with arguments, and the module named as "importing"

Problem 4:

Create a module that finds and counts the word "right" in the given paragraph, and return the result.

Paragraph in here

Use "If" statements & "for" statements only
The program should also find and count the word regardless of case or capitalization.
It must be on a module named "Paragraph"

Problem 5A:

Create a module that creates a text (.txt) file.
The contents of the file is a paragraph.

Paragraph in here

It must be in a module named "creating"

Problem 5B:

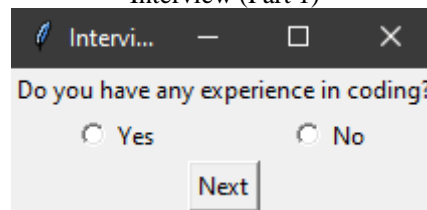
Create a module that reads the text (.txt) file created from the previous item and return the contents of the file.
It must be in a module named "accessing"

Please name your program (.py file) as "ProbSet3"

Tips

Check the Answer

Interview (Part 1)

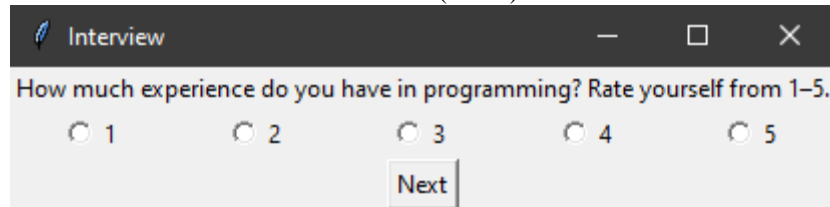
A screenshot of a window titled "Interview (Part 1)". The window has a dark header bar with a feather icon, the text "Intervi...", and standard window controls (minimize, maximize, close). The main content area is light gray and contains the question "Do you have any experience in coding?". Below the question are two radio buttons labeled "Yes" and "No". At the bottom center is a "Next" button.

Do you have any experience in coding?

☐ Yes ☐ No

Next

Interview (Part 2)

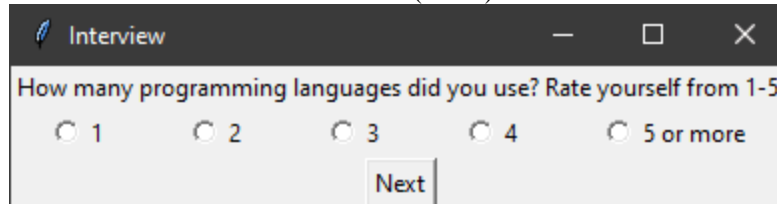
A screenshot of a window titled "Interview (Part 2)". The window has a dark header bar with a feather icon, the text "Interview", and standard window controls. The main content area is light gray and contains the question "How much experience do you have in programming? Rate yourself from 1-5.". Below the question are five radio buttons labeled "1", "2", "3", "4", and "5". At the bottom center is a "Next" button.

How much experience do you have in programming? Rate yourself from 1-5.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Next

Interview (Part 3)

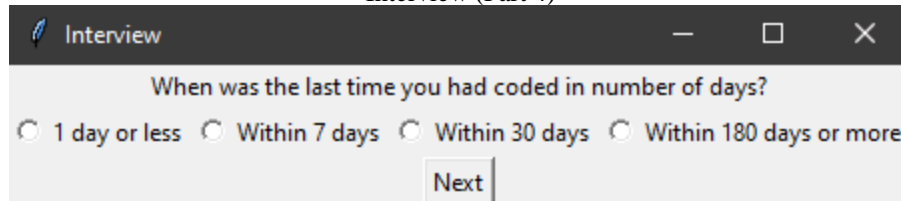
A screenshot of a window titled "Interview (Part 3)". The window has a dark header bar with a feather icon, the text "Interview", and standard window controls. The main content area is light gray and contains the question "How many programming languages did you use? Rate yourself from 1-5.". Below the question are five radio buttons labeled "1", "2", "3", "4", and "5 or more". At the bottom center is a "Next" button.

How many programming languages did you use? Rate yourself from 1-5.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 or more

Next

Interview (Part 4)

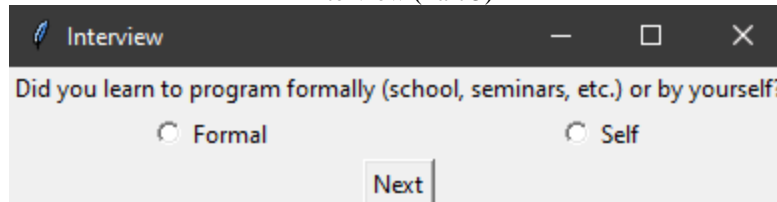
A screenshot of a window titled "Interview (Part 4)". The window has a dark header bar with a feather icon, the text "Interview", and standard window controls. The main content area is light gray and contains the question "When was the last time you had coded in number of days?". Below the question are four radio buttons labeled "1 day or less", "Within 7 days", "Within 30 days", and "Within 180 days or more". At the bottom center is a "Next" button.

When was the last time you had coded in number of days?

☐ 1 day or less ☐ Within 7 days ☐ Within 30 days ☐ Within 180 days or more

Next

Interview (Part 5)

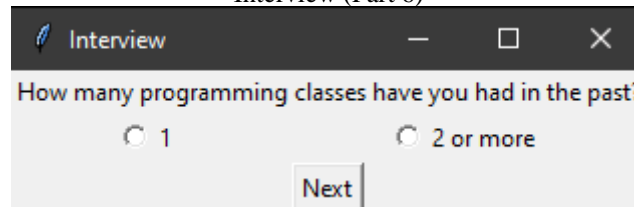
A screenshot of a window titled "Interview (Part 5)". The window has a dark header bar with a feather icon, the text "Interview", and standard window controls. The main content area is light gray and contains the question "Did you learn to program formally (school, seminars, etc.) or by yourself?". Below the question are two radio buttons labeled "Formal" and "Self". At the bottom center is a "Next" button.

Did you learn to program formally (school, seminars, etc.) or by yourself?

☐ Formal ☐ Self

Next

Interview (Part 6)

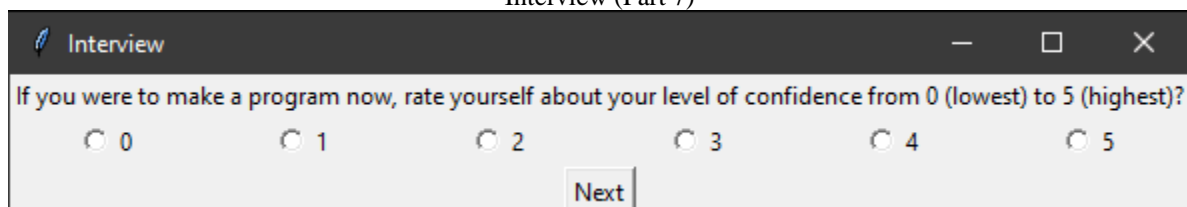
A screenshot of a window titled "Interview (Part 6)". The window has a dark header bar with a feather icon, the text "Interview", and standard window controls. The main content area is light gray and contains the question "How many programming classes have you had in the past?". Below the question are two radio buttons labeled "1" and "2 or more". At the bottom center is a "Next" button.

How many programming classes have you had in the past?

☐ 1 ☐ 2 or more

Next

Interview (Part 7)


A screenshot of a window titled "Interview (Part 7)". The window has a dark header bar with a feather icon, the text "Interview", and standard window controls. The main content area is light gray and contains the question "If you were to make a program now, rate yourself about your level of confidence from 0 (lowest) to 5 (highest)?". Below the question are six radio buttons labeled "0", "1", "2", "3", "4", and "5". At the bottom center is a "Next" button.

If you were to make a program now, rate yourself about your level of confidence from 0 (lowest) to 5 (highest)?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Next

Interview (Part 8)

 Interview


Check whether the code has errors, write the line number that you think is incorrect: (Python Programming Language)

```
1 items_correct = 0
2 total_items = 0
3 score_in_percent = 0
4 items_correct = input("Correct items: ")
5 total_items = input("Total items: ")
6 print ("score_in_percent")
7 score_in_percent = items_correct / total_items
```

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

Next

Interview (Part 9)


 Interview

Do you think that you can code from scratch?

☐ Yes ☐ No

Next

Interview (Part 10)


 Interview

Rate yourself about your interest in programming? Where 0 is not interested at all, while 5 is very interested.

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Next

Interview (Part 11)


 Interview

At what stage or difficulty would you like to start programming

☐ Beginner ☐ Intermediate ☐ Advanced

Next

Interview (Part 12)

 Interview

How many programming languages have you heard of?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 or more

Next

Lecture – Introduction

Introduction

Python Interpreters:

Interpreters are converting your codes to make an output, or program.

Anaconda

PyCharm

Online Interpreters

Installation Instructions:

Anaconda

Documentation

Installation

PyCharm

Guides

Installation

Online Interpreter - Geeks For Geeks

Installation

Program

How to Use This Program: [Manual]

Main Menu

Interview

Answering Questions

Adding files to submit

Lecture – For Problem Set 1

Lectur...

Lesson 1: Return Function

Lesson 2: Modules

Lesson 3: Print

Lesson 4: Variables

Lesson 5: Basic Arithmetic Operations

Lecture – For Problem Set 2

L..

Lesson 6: Data Types

Lesson 7: Operators

Lesson 8: Palindrome Program

Lesson 9: "len" Function

Lesson 10: "global" Function

Lecture – For Problem Set 3

Lecture - Problem ...

Lesson 11:	Imports [Numpy]
Lesson 12:	Accessing & Creating Files
Lesson 13:	Conditional [If] Statements
Lesson 14:	Loopings ["For" & "While" Statements]
Lesson 15:	"split" Functions
Lesson 16:	Text Formatting

Tips/Hint Button in Problem Sets


Tips

Check your indents.
Check your variable name.
Check your module name.
Check your capitalizations, spelling, and symbols.
Check your file names
Don't forget to return

For more information about submitting your work, please check the introduction page.

Wrong Answer Prompt

Result

 Wrong Answer in Problem 2A

OK