**Project Pseudocode**

**Python Quiz**

Create a Python quiz to help students learn basic terminology and concepts from key lectures.

**Scope**

To contain initial scope, build top Q&A sessions for:

* 5 Python lecture topics
* Offer 5 questions, each with 3 answers, for each topic

**User Stories**

**Launch Program**

* As a user, when I launch the program, I want to view concise instructions so that I can easily and correctly start a topic Q&A session:
  + Display a welcome statement
  + Provide a list of available topics
  + Enable all options as selectable
  + Allow user to only select one option at a time

**Launch a Topic**

* As a user who properly selected a topic option, I want to launch the first question of the topic Q&A session, so that I can start learning:
  + Launch a topic Q&A session (total of 5 questions)
  + Reset Question Counter to 1 and Correct Answer Counter to 0
  + Display a question on that topic with 3 multiple choice answers
  + Display each answer in normal color
  + Enable each answer as selectable
  + Display the Question Counter (e.g. Question 1/5)
  + Display how to exit instructions
* As a user who improperly selected a topic option (e.g. entered an invalid character), I want feedback on my error so that I know what actions are required to launch a topic Q&A session, so that I can start learning:
* Return to Launch Program workflow
  + - In lieu of the welcome message, display an error message: “Sorry, that’s not an option on the list. Please try again.”

**Counters**

* As a user, I want to view two counters, so that I know a) how many total questions, b) how many more questions and c) how many questions I have answered correctly in a topic Q&A session:
  + Display a Question Counter (e.g. Question 1/5)
  + Display a Correct Answer Counter (e.g. 1 correct answer)
  + Display counters in a manner that does not confuse user (need UX input on layout)
  + Ideally the counters would be iconography not text in an HTML front end

**Answering Questions**

* As a user, when I select the correct answer to a question, I want to receive feedback so that I understand I was correct and then continue to the next question, so as to continue with as few clicks as possible.
* Mark the question as “used”; do not redisplay during this topic Q&A session
  + Display a success message
  + Display a new question on that topic with 3 possible answers (not used in this topic Q&A session)
  + Display each answer in normal color
  + Enable each answer as selectable
* Increment and display the Question Counter (e.g. Question 2 of 5)
* Increment and display the Correct Answer Counter (e.g. 1 correct answer)
* Display how to exit instructions
* As a user, when I select an incorrect answer to a question, I want to receive feedback so that I understand I was wrong and how to continue in the topic Q&A session:
  + If this is my first wrong answer:
* Display a try again message: “So close, but that’s not quite right. Try again!”
* Redisplay the question and three answers
* Display the one previously selected answer at 50% visible grey text
* Make the one previously selected answer non-selectable
  + If entered, generate an error message
* Display the two previously unselected answers in normal color
* Enable the two previously unselected answers as selectable
  + If this is my second wrong answer:
    - Display a try again message: “Nope, that’s not the answer either.”
    - Redisplay the question and three answers
    - Display the two previously selected answers at 50% visible grey text
    - Make two previously selected answers non-selectable
      * If entered, generate an error message
  + Display the one unselected answer in normal color
  + Enable the one unselected answers as selectable
* As a user, when I enter an invalid character or previously selected answer, I want to receive feedback so that I understand I made an error, so I can successfully continue in the topic Q&A session:
  + - Display an error: “Sorry! That’s not an available option. Try again.”
  + Redisplay the prior Answering Questions workflow step

**Exit the workflow**

* As a user, I want to know how to exit the quiz at all times, so that I can attend to other activities:
* Below each question, provide simple instructions on how to exit tool
* As a user, if I decide to “exit” the tool, I want to end my session and view a session total so that I can attend to other activities.
  + Display a thank you message
  + Optional: Display the Total Question Counter and Total Correct Answer Counter
  + Close/end the program

**New Topic**

* As a user, once I have answered all the questions in a topic Q&A session, I want to be provided options to select, so that I can continue with or end the quiz session.
  + Display the following options:
    - Try this topic again
    - Try another topic
    - Exit the tool
  + Enable all options as selectable
* As a user, if I select “Try this topic again”, I want to restart the same topic Q&A session so that I can continue to study that topic:
  + See Launch a Topic workflow
* As a user, if I select “Try another topic”, I want to view the options for a new topic Q&A session so that I can study a new topic:
* See Launch Program workflow
  + Do not display the welcome message
* As a user, if I select “Exit the tool”, I want to end the program so that I can attend to other activities:
  + Display a thank you message
  + Close/end the program

**Options to Consider:**

* Include additional topics
* Add an “Any Topic” option to the topic list; questions are then randomly presented from any topic
* Total Question Counter (across all topic Q&A sessions)
* Total Correct Answer Counter (across all topic Q&A session)
* Capture user name and write results to an external file