**Description:**  
This repository contains solutions to a Python Basics assignment that focuses on fundamental programming concepts, data structures, and logical problem-solving. The assignment consists of 10 questions covering key Python topics such as lists, dictionaries, functions, conditional statements, and loops.

**Topics Covered:**

* **Lists vs Tuples:** Understanding key differences between mutable and immutable sequences.
* **List Comparisons:** Comparing elements of two lists and printing appropriate messages.
* **Dictionary Creation:** Generating a dictionary where numbers are keys and their squares are values.
* **Basic Calculator Function:** Implementing a function that performs addition, subtraction, multiplication, and division based on user input.
* **Leap Year Checker:** Writing a function to determine leap years and printing all leap years of the 21st century.
* **Pattern Printing:** Creating a number-based pattern using loops.
* **List-to-Dictionary Conversion:** Converting a list of tuples into a dictionary.
* **List Index Separation:** Splitting a list into two based on even and odd indices.
* **Finding the Longest Word:** Extracting the longest word from a given sentence.
* **Element Frequency Counter:** Counting occurrences of elements in a list using a dictionary.

This repository is a valuable resource for beginners to practice Python and improve their problem-solving skills. Contributions, feedback, and discussions are welcome!