**Robomanipal Worksheet Python**

**Easy**

1. **Check for Even or Odd  
   Write a Python program to check if a given number is even or odd.**
   * **Input:  
     7**
   * **Output:  
     Odd**
2. **Sum of Digits  
   Write a Python program to find the sum of digits of a given number.**
   * **Input:  
     1234**
   * **Output:  
     10**

**Medium**

1. **Find the Largest Element in a List  
   Write a Python program to find the largest element in a list of integers.**
   * **Input:  
     [4, 7, 1, 8, 5]**
   * **Output:  
     8**
2. **Convert a List to a String  
   Write a Python program to convert a list of characters to a string.**
   * **Input:  
     ['H', 'e', 'l', 'l', 'o']**
   * **Output:  
     "Hello"**
3. **Check if a Number is Prime  
   Write a Python program to check if a given number is a prime number.**
   * **Input:  
     29**
   * **Output:  
     Prime**
4. **Flatten a Nested List  
   Write a Python program to flatten a nested list into a single list.**
   * **Input:  
     [1, [2, [3, 4], 5], 6]**
   * **Output:  
     [1, 2, 3, 4, 5, 6]**
5. **Find the Common Elements Between Two Sets  
   Write a Python program to find the common elements between two sets.**
   * **Input:  
     Set 1: {1, 2, 3, 4}  
     Set 2: {3, 4, 5, 6}**
   * **Output:  
     {3, 4}**
6. **Check for Anagram (Case Insensitive)  
   Write a Python program to check if two strings are anagrams, ignoring case.**
   * **Input:  
     "Listen"  
     "Silent"**
   * **Output:  
     Anagram**
7. **Find the Intersection of Two Lists  
   Write a Python program to find the intersection of two lists.**
   * **Input:  
     List 1: [1, 2, 3, 4, 5]  
     List 2: [4, 5, 6, 7]**
   * **Output:  
     [4, 5]**
8. **Sort a List of Dictionaries by a Key  
   Write a Python program to sort a list of dictionaries by a specific key.**
   * **Input:  
     [{"name": "John", "age": 30}, {"name": "Jane", "age": 25}, {"name": "Doe", "age": 40}]  
     Key: "age"**
   * **Output:  
     [{"name": "Jane", "age": 25}, {"name": "John", "age": 30}, {"name": "Doe", "age": 40}]**
9. **Create a Dictionary from Two Lists  
   Write a Python program to create a dictionary from two lists, one with keys and one with values.**
   * **Input:  
     Keys: ['name', 'age', 'city']  
     Values: ['Alice', 30, 'New York']**
   * **Output:  
     {'name': 'Alice', 'age': 30, 'city': 'New York'}**
10. **Find the Length of Each Word in a Sentence  
    Write a Python program to find the length of each word in a sentence.**
    * **Input:  
      "Python is fun"**
    * **Output:  
      [6, 2, 3]**

**Hard**

1. **Longest Increasing Subsequence  
   Write a Python program to find the length of the longest increasing subsequence in a list of integers.**
   * **Input:  
     [10, 22, 9, 33, 21, 50, 41, 60, 80]**
   * **Output:  
     6**
2. **Implement a Linked List  
   Write a Python program to implement a singly linked list with basic operations: insertion, deletion, and traversal.**

* **Input:  
  Operations:**
  + **Insert 10, 20, 30**
  + **Delete 20**
  + **Traverse**
* **Output:  
  Linked List: 10 -> 30**

**15. Implement a Stack Using Lists  
Write a Python program to implement a stack data structure using lists. Include operations for pushing, popping, and checking if the stack is empty.**

* **Input:  
  Operations:**
  + **Push 5**
  + **Push 10**
  + **Pop**
  + **Check if empty**
* **Output:  
  Stack after operations: [5]  
  Is stack empty? False**