Python Laboratory

Question Bank (For:IAT-2)

Strings

1. Write a python program to print the sum of the ASCII value of all characters of the input string.
2. Write a program to slice a string into 3 equal parts. Input string contains a single word. Display each slice of the original string.
3. Write a python program to read an input string from the user. Remove the white spaces from the input string and display it. Also retrieve the characters at the odd index from this string and form a new string and display it.
4. Write a program to reverse only words in a string.
5. Write a program to find a Permutation of a given string (Printing various combinations of characters in the string).
6. Write a program to check if two given strings are anagram or not.
7. Write a program to check if the Substring is Present in a Given String
8. Write a program to count vowels in a given string.

Files

1. Write a program in python to count the number of lines in a text file.
2. Write a python program to append the contents of one file to another file.
3. Write a python program to count the number of vowels and consonants in a file.
4. Write a python program to read the contents of the file in reverse order.
5. Write a program in python to print the file contents with line number using file.

Lists

1. Write a Python program to get the largest number from a list.
2. Write a Python program to remove duplicates from a list.
3. Write a Python function that takes two lists and returns True if they have at least one common member.
4. Write a Python program to print the numbers of a specified list after removing even numbers from it.
5. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).
6. Write a Python program to generate all permutations of a list in Python.
7. Write a Python program to append a list to the second list.
8. Write a Python program to get the frequency of the elements in a list.

Tuples

1. Write a Python program to find the repeated items of a tuple.
2. Write a Python program to convert a tuple to a dictionary.
3. Write a Python program to reverse a tuple.

4. Write a Python program to replace last value of tuples in a list.
   Sample list: [(10, 20, 40), (40, 50, 60), (70, 80, 90)]
   Expected Output: [(10, 20, 100), (40, 50, 100), (70, 80, 100)]
5. Write a Python program to sort a tuple by its float element.
   Sample data: [('item1', '12.20'), ('item2', '15.10'), ('item3', '24.5')]
   Expected Output: [('item3', '24.5'), ('item2', '15.10'), ('item1', '12.20')]

Dictionaries

1. **Write the following functions:**
   create(k1,k2,k3,k4,v1,v2,v3,v4), that creates a dictionary d={k1:v1,k2:v2k3:v3k4:v4} and returns a dictionary.
   - display(), that displays key along with its price and stock information.
   - If_all_sold(), that displays the total amount if all the goods are sold.
   - max_stock(), that displays the product that is in maximum stock.
   - max_price(), that displays the product with maximum price.

2. We represent scores of batsmen across a sequence of matches in a two level dictionary as follows:

   d = {'match1': {'player1':57,

   'player2':38},

   'match2': {'player3':9,

   'player1':42},

   'match3': {'player2':41,

   'player4':63,

   'player3':91}

   }

   Each match is identified by a string, as is each player. The scores are all integers.
   Define a **Python function highestscore(d)** that reads a dictionary d of this form and identifies the player with the highest total score. Your function should return a pair (playername, topscore) where playername is a the name of the player with the highest score, and topscore is an integer, the total score of playername.
   The input will be such that there are never any ties for highest total score.

3. Given the following dictionary:
   inventory = {
   'gold' : 500,
   'pouch' : ['flint', 'twine', 'gemstone'], 'backpack' : ['xylophone','dagger', 'bedroll','bread loaf'] } Write a function 'change(inventory)', that returns the dictionary inventory{} after the following changes:

- Add a key to inventory called 'pocket'.
- Set the value of 'pocket' to be a list consisting of the strings 'seashell', 'strange berry', and 'lint'.
- Sort the items in the list stored under the 'backpack' key.
- Remove('dagger') from the list of items stored under the 'backpack' key.
- Add 50 to the number stored under the 'gold' key. Hint : You can use built-in functions.