Solutions,21jan,2022

1.Python program to find the average of 10 numbers using while loop?

Solution:

```
>>> count = 0
>>> sum = 0.0
>>> while(count<10):
>>>     number = float(input("Enter a real number: "))
>>>    count=count+1
>>>    sum = sum+number
>>> avg = sum/10;
>>> print("Average is :",avg)
```

2 Write a Python program to calculate surface volume and area of a cylinder.

Solution:

```
>>> pi=22/7
>>> height = float(input('Height of cylinder: '))
>>> radian = float(input('Radius of cylinder: '))
>>> volume = pi * radian * radian * height
>>>sur_area = ((2*pi*radian) * height) + ((pi*radian**2)*2)
>>> print("Volume is: ", volume)
>>> print("Surface Area is: ", sur_area)
```

3.Write a Python program to display the fraction instances of the string representation of a number.

Solution:

```
>>> import fractions

>>> for s in ['0.7', '2.5', '9.32'];
>>>     f = fractions.Fraction(s)
>>>    print('{0:>4} = {1}'.format(s, f))
```

4.write a Python program to flip a coin 1000 times and count heads and tails.

Solution:

```
>>> import random
>>> import itertools
>>>
>>> results = { 'heads': 0, 'tails': 0,}
>>> sides = list(results.keys())
>>>
>>> for i in range(10000):
>>>     results[random.choice(sides)] += 1

>>> print('Heads:', results['heads'])
>>> print('Tails:', results['tails'])
```

5.write a python program to find out the perfect square number between the given numbers ?

Solution:

```
>>> def squares(a, b):
>>>     lists=[]
>>>    # Traverse through all numbers
>>>     for i in range (a,b+1):
>>>        j = 1;
>>>         while j*j <= i:
>>>             if j*j == i:
>>>                 lists.append(i)
>>>             j = j+1
>>>         i = i+1
>>>     return lists
>>> print(squares(1, 30))
```

6. Write a Python program to add two given lists of different lengths, start from right.

Solution:

```
>>> def elementswise_right_join(l1, l2):
>>>     f_len = len(l1)-(len(l2) - 1)
>>>     for i in range(len(l1), 0, -1):
>>>         if i-f_len < 0:
>>>             break
>>>         else:
```

```
>>>             l1[i-1] = l1[i-1] + l2[i-f_len]
>>>     return l1

>>> nums1 = [2, 4, 7, 0, 5, 8]
>>> nums2 = [3, 3, -1, 7]
>>> print("\nOriginal lists:")
>>> print(nums1)
>>> print(nums2)
>>> print("\nAdd said two lists from left:")
>>> print(elementswise_right_join(nums1, nums2))

>>> nums3 = [1, 2, 3, 4, 5, 6]
>>> nums4 = [2, 4, -3]
>>> print("\nOriginal lists:")
>>> print(nums3)
>>> print(nums4)
>>> print("\nAdd said two lists from left:")
>>> print(elementswise_right_join(nums3, nums4))
```

7.Write a Python program to remove all strings from a given list of tuples.

Solution:

```
>>> def test(list1):
>>>     result =   [tuple(v for v in i if not isinstance(v, str)) for i in list1]
>>>     return list(result)

>>> marks = [(100, 'Math'), (80, 'Math'), (90, 'Math'), (88, 'Science', 89), (90, 'Science', 92)]
>>> print("\nOriginal list:")
>>> print(marks)
>>> print("\nRemove all strings from the said list of tuples:")
>>> print(test(marks))
```

8.Write a Python program to compute the sum of the ASCII values of the upper-case characters in a given string.

Solution:

```
>>> def test(strs):
>>>  return
>>> sum(map(ord,filter(str.isupper,strs)))
>>> strs =  "PytHon ExerciSEs"
```

```
>>> print("Original strings:")
>>> print(strs)
>>> print("Sum of the ASCII values of the upper-case characters in the said string:")
>>> print(test(strs))
>>> strs =  "JavaScript"
>>> print("\nOriginal strings:")
>>> print(strs)
>>> print("Sum of the ASCII values of the upper-case characters in the said string:")
>>> print(test(strs))
```

9.Write a Python program to reverse the case of all strings. For those strings, which contain no letters, reverse the strings.

Input:
['Green', 'Red', 'Orange', 'Yellow', '', 'White']
Output:
['gREEN', 'rED', 'oRANGE', 'yELLOW', '', 'wHITE']

Solution:

```
>>> def test(strs):
>>>     return [s[::-1] if s.isdigit() else
>>> s.swapcase() for s in strs]
>>> strs = ['cat', 'catatatatctsa', 'abcdefhijklmnop', '124259239185125', '',  'unique']
>>> print("Original list:")
 >>>print(strs)
>>> print("Reverse the case of all strings. For those strings which contain no letters, reverse the strings:")
>>> print(test(strs))
>>> strs = ['Green', 'Red', 'Orange', 'Yellow', '', 'White']
>>> print("\nOriginal list:")
>>> print(strs)
>>> print("Reverse the case of all strings. For those strings which contain no letters, reverse the strings:")
>>> print(test(strs))
>>> strs = ["Hello", "!@#", "!@#$", "123#@!"]
>>> print("\nOriginal list:")
>>> print(strs)
>>> print("Reverse the case of all strings. For those strings which contain no letters, reverse the strings:")
>>> print(test(strs))
```

10.Write a Python program to remove specific words from a given list using lambda

Solution:

```
>>> def remove_words(list1, remove_words):

>>>     result = list(filter(lambda word: word not in remove_words, list1))
>>>     return result

>>> colors = ['orange', 'red', 'green', 'blue', 'white', 'black']
>>> remove_colors = ['orange','black']
>>> print("Original list:")
>>> print(colors)
>>> print("\nRemove words:")
>>> print(remove_colors)
>>> print("\nAfter removing the specified words from the said list:")
>>> print(remove_words(colors, remove_colors))
```