Python

Week -1 Practice Problems - Solutions

Problem 1 : Write a program to check whether the given number is even or not.

Solution:

```
number = input("Enter a number ")
x = int(number)%2
if x == 0:
   print(" The number is Even ")
else:
   print(" The number is odd ")
```

Problem 2: Write a program to convert the temperature in degree centigrade to Fahrenheit

Solution:

```
c = input(" Enter temperature in Centigrade: ")
f = (9*(int(c))/5)+32
print(" Temperature in Fahrenheit is: ", f)
```

Problem 3: Write a program to find the area of a triangle whose sides are given.

Solution:

```
import math

a = float(input("Enter the length of side a: "))
b = float(input("Enter the length of side b: "))
c = float(input("Enter the length of side c: "))
s = (a+b+c)/2
area = math.sqrt(s*(s-a)*(s-b)*(s-c))
print(" Area of the triangle is: ", area)
```

Problem 4: Write a program to find out the average of a given set of integers.

Solution:

```
count = int(input("Enter the count of numbers: "))
i = 0
sum = 0
for i in range(count):
   x = int(input("Enter an integer: "))
   sum = sum + x
avg = sum/count
print(" The average is: ", avg)
```

Problem 5: Write a program to find the circumference and area of a circle with a given radius

Solution:

```
import math

r = float(input("Input the radius of the circle: "))
c = 2 * math.pi * r
area = math.pi * r * r
print("The circumference of the circle is: ", c)
print("The area of the circle is: ", area)
```

Problem 6: Write a function to compute the largest item from the given list of integers.

Solution:

```
import math

def maximum(arr):
  max = -math.inf
  for x in arr:
     if x>max:
        max = x

  return max
```

Problem 7: Write a function to check if the given two strings are anagram of each other or not.

An anagram is a word or phrase formed by rearranging the letters of a different word or phrase, typically using all the original letters exactly once.

Example : String 1 = anagram, String2 = naargam. Both are anagrams of each other since rearranging string 2 will give string 1

Solution:

```
def areAnagrams(str1:str, str2:str):
  sorted_str1 = sort_string(str1)
  sorted_str2 = sort_string(str2)

  return sorted_str1 == sorted_str2

def sort_string(string):
  return "".join(sorted(string))
```

Problem 8 : Write a function to calculate the factorial of a given number.

Example: Factorial of 5 is 5*4*3*2*1 = 120

Solution:

```
def factorial(x):
  result = 1
  for i in range(1, x+1):
     result *= i

  return result
```

Problem 9: Write a program to calculate the sum of series up to n term.

For example, if n =5 the series will become 2 + 22 + 222 + 2222 + 22222 = 24690

Solution:

```
def series_sum(n):
  # first number of sequence
  start = 2
  sum_seq = 0

  # run loop n times
  for i in range(0, n):

    sum_seq += start
    # calculate the next term
    start = start * 10 + 2
  return sum_seq
```

Problem 10: Write a program to print the following start pattern using the for loop

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

Solution:

```
rows = 5
for i in range(0, rows):
  for j in range(0, i + 1):
     print("*", end=' ')
  print("\r")

for i in range(rows, 0, -1):
  for j in range(0, i - 1):
     print("*", end=' ')
  print("\r")
```