Assignment -1
Python Programming

Assignment Date	29 September 2022
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Maximum Marks	2 Marks

Question-1:

Write a Python program to check whether two given circles (given center (x,y) and radius) are intersecting. Return true for intersecting otherwise false

Solution:

```
def is_circle_collision(circle1, circle2):
    x1, y1, r1 = circle1
    x2, y2, r2 = circle2
    distance = ((x1-x2)**2 + (y1-y2)**2)**0.5
    return distance <= r1 + r2
print(is_circle_collision([1,2, 4], [1,2, 8]))
print(is_circle_collision([0,0, 2], [10,10, 5]))
```

output

Question-2:

Write a Python program to compute the digit distance between two integers.
The digit distance between two numbers is the absolute value of the difference of those numbers.
For example, the distance between 3 and -3 on the number line given by the $|3 - (-3)| = |3 + 3| = 6$ units
Digit distance of 123 and 256 is
Since $|1 - 2| + |2 - 5| + |3 - 6| = 1 + 3 + 3 = 7$

Solution:

```python
 def digit_distance_nums(n1, n2):

     return sum(map(int,str(abs(n1-n2))))

print(digit_distance_nums(123, 256))

print(digit_distance_nums(23, 56))

print(digit_distance_nums(1, 2))

print(digit_distance_nums(24232, 45645))
```

output:

```
1  def digit_distance_nums(n1, n2):
2          return sum(map(int,str(abs(n1-n2))))
3  print(digit_distance_nums(123, 256))
4  print(digit_distance_nums(23, 56))
5  print(digit_distance_nums(1, 2))
6  print(digit_distance_nums(24232, 45645))
```
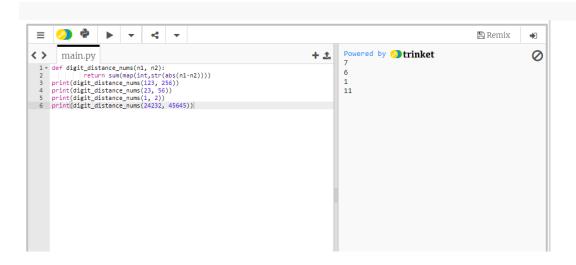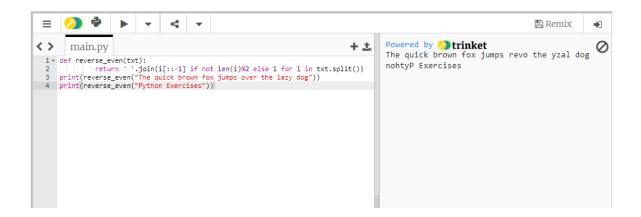
```
7
6
1
11
```

Question-3:

Write a Python program to reverse all the words which have even length.

Solution:

```python
def reverse_even(txt):
    return ' '.join(i[::-1] if not len(i)%2 else i for i in txt.split())
print(reverse_even("The quick brown fox jumps over the lazy dog"))
print(reverse_even("Python  excersises'))
```

Output:

```
1  def reverse_even(txt):
2      return ' '.join(i[::-1] if not len(i)%2 else i for i in txt.split())
3  print(reverse_even("The quick brown fox jumps over the lazy dog"))
4  print(reverse_even("Python Exercises"))
```

```
The quick brown fox jumps revo the yzal dog
nohtyP Exercises
```

Question-4:

Write a Python program to print letters from the English alphabet from a-z and A-Z

Solution:
 import string

print("Alphabet from a-z:")

for letter in string.ascii_lowercase:

print(letter, end =" ")
print("\nAlphabet from A-Z:")
for letter in string.ascii_uppercase:
 print(letter, end =" ")

Output:
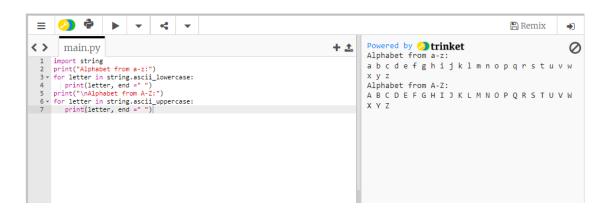


```
1  import string
2  print("Alphabet from a-z:")
3  for letter in string.ascii_lowercase:
4      print(letter, end =" ")
5  print("\nAlphabet from A-Z:")
6  for letter in string.ascii_uppercase:
7      print(letter, end =" ")
```

```
Alphabet from a-z:
a b c d e f g h i j k l m n o p q r s t u v w
x y z
Alphabet from A-Z:
A B C D E F G H I J K L M N O P Q R S T U V W
X Y Z
```

Question-5:

Write a Python program to generate and prints a list of numbers from 1 to 10.

Solution:

```
nums = range(1,10)
print(list(nums))
print(list(map(str, nums)))
```

Output:

```
nums = range(1,10)
print(list(nums))
print(list(map(str, nums)))
```

```
[1, 2, 3, 4, 5, 6, 7, 8, 9]
['1', '2', '3', '4', '5', '6', '7', '8', '9']
```