Assignment -2

Python Programming

Assignment Date	29 September 2022
Team ID	PNT2022TMID44152
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Maximum Marks	2 Marks

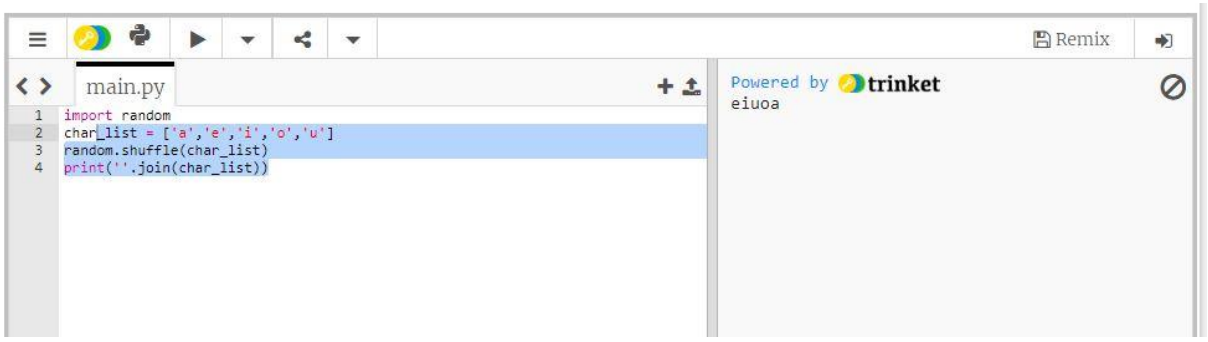
Question-1:

Write a Python program to create all possible strings by using 'a', 'e', 'i', 'o', 'u'. Use the characters exactly once.

Solution:

```
import random
char_list = ['a','e','i','o','u']
random.shuffle(char_list)
print(''.join(char_list))
```

Output:



Question-2:

Write a Python program to create a histogram from a given list of integers.

Solution:

```
x = input("Input the first number")
y = input("Input the second number")
z = input("Input the third number")
print("Median of the above three numbers -")

if y < x and x < z:
    print(x)
```

```
elif z < x and x < y:
    print(x)

elif z < y and y < x:
    print(y)
elif x < y and y < z:
    print(y)

elif y < z and z < x:
    print(z)
elif x < z and z < y:
    print(z)
```

Output:

Question-3:

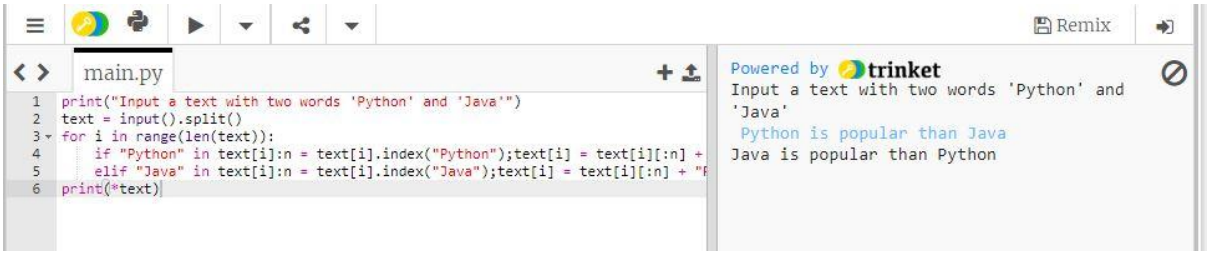
Write a Python program to replace a string "Python" with "Java" and "Java" with "Python" in a given string.

Solution:

```
print("Input a text with two words 'Python' and 'Java'")
```

```
text = input().split()
for i in range(len(text)):
    if "Python" in text[i]:n = text[i].index("Python");text[i] =
text[i][:n] + "Java" + text[i][n + 6:]
    elif "Java" in text[i]:n = text[i].index("Java");text[i] =
text[i][:n] + "Python" + text[i][n + 4:]
print(*text)
```

Output:



Question-4:

Write a Python program to display the first and last colors from the following list.

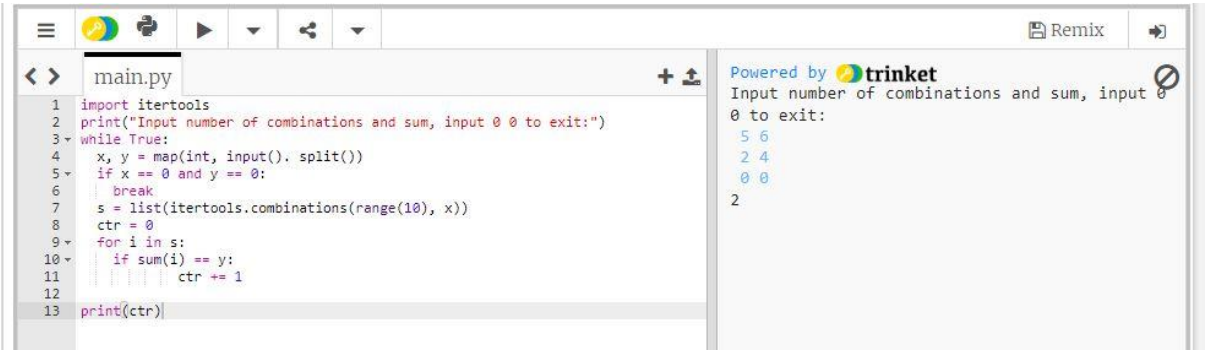
Write a Python program that reads n digits (given) chosen from 0 to 9 and prints the number of combinations where the sum of the digits equals to another given number (s). Do not use the same digits in a combination.

Solution:

```
import itertools
print("Input number of combinations and sum, input 0 0 to exit:")
while True:
  x, y = map(int, input(). split())
  if x == 0 and y == 0:
    break
  s = list(itertools.combinations(range(10), x))
  ctr = 0
  for i in s:
    if sum(i) == y:
            ctr += 1
```

```
print(ctr)
```

Output:



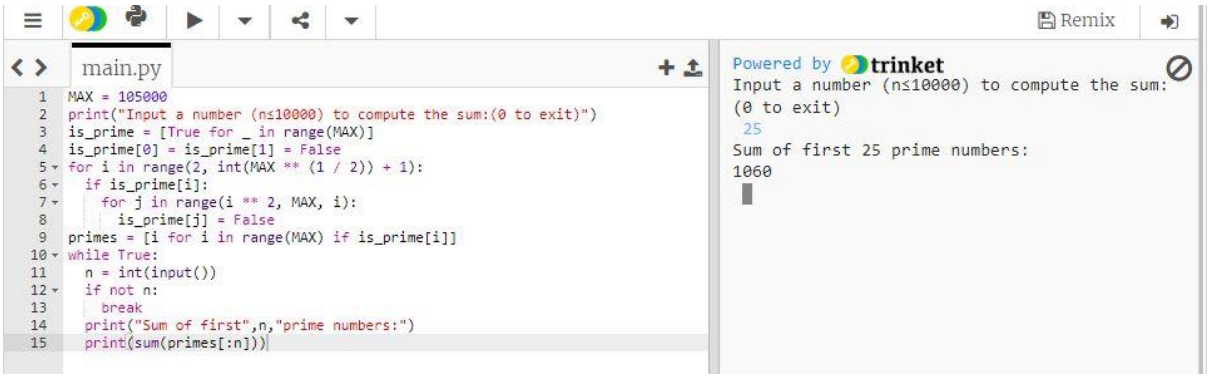
Question-5:

Write a Python program to compute the sum of first n given prime numbers.

Solution:

```
MAX = 105000
print("Input a number (n≤10000) to compute the sum:(0 to exit)")
is_prime = [True for _ in range(MAX)]
is_prime[0] = is_prime[1] = False
for i in range(2, int(MAX ** (1 / 2)) + 1):
  if is_prime[i]:
    for j in range(i ** 2, MAX, i):
      is_prime[j] = False
primes = [i for i in range(MAX) if is_prime[i]]
while True:
  n = int(input())
  if not n:
    break
  print("Sum of first",n,"prime numbers:")
  print(sum(primes[:n]))
```

Output:


Remix
main.py
MAX = 105000
print("Input a number (n≤10000) to compute the sum:(0 to exit)")
is_prime = [True for _ in range(MAX)]
is_prime[0] = is_prime[1] = False
for i in range(2, int(MAX ** (1 / 2)) + 1):
if is_prime[i]:
for j in range(i ** 2, MAX, i):
is_prime[j] = False
primes = [i for i in range(MAX) if is_prime[i]]
while True:
n = int(input())
if not n:
break
print("Sum of first",n,"prime numbers:")
print(sum(primes[:n]))
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Input a number (n≤10000) to compute the sum:
(0 to exit)
25
Sum of first 25 prime numbers:
1060