Question 1:

```
import math
import random
x=[]
y=[]



for i in range(0, 100):
    n = random.uniform(0, 1)
    x.append(n)


for i in range(0, 100):
    m = random.randint(0, 100)
    n = m % 2
    y.append(n)



p = 0
for i in range(0, 100):
    p += y[i]*(math.log2(x[i])) + (1-y[i]) *(math.log2(1-x[i]))


O = -1/5 * p
print("Result is", O)
```

Question 2:

```
class py_solution(object):
  def twoSum(self, nums, target_num):
      result_dict = dict()
      i = 0
      j = 0
      pos = 1
      for i in range(len(nums)):
          for j in range(len(nums)):
              if nums[i]+nums[j] == target_num:
                  result_dict[pos] = [i, j]
                  pos += 1
      return result_dict

# creating an empty list
lst = []

# number of elements as input
n = int(input("Enter number of elements : "))

# iterating till the range
print("Enter numbers")
for i in range(0, n):
    ele = int(input())

    lst.append(ele) # adding the element
```

```
print(py_solution().twoSum(lst,20))
```