## **ASSIGNMENT 3**

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```
Q1:
Set x = total value of coins
Set N = number of coins
Set c is the list of the different price coin # from big to small
Set n = 0
Set i = the length of the list -1
Make a list num_list
Repeat:
       If x \ge c[i]: # which follow the list to change the i
               temp_n = x // c[i]
               c[i] and temp_n add into list num_list
               n = n + 1
               x = x \mod c[i]
               i = i - 1
               if i < 0:
                       break this if, and go to next loop
       else:
               i = i - 1
```

printout "The minimum number of coins is: " and number of the value in the num\_list.

for i in the list num\_list:

if i < 0:

printout "The value of coin is: ", i[0],"The number of this coin is: ",i[1])
# i[0] is the first number in that times of list, and i[1] is the second number

break this else, and go to next loop

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## **Q2**:

a)

In the next page.

b)

Alice Win: 25 Times

Bob win: 16 Times

So, we can know the probability of Alice win this game is bigger than Bob, but Bob still can win this game in some case. For example: (Alice: A, Bob: B)

1)

A: 1, B: 1, A: 2, B: 2, A: 3, B: 3, A: 4, B: 5

2)

A: 1, B: 1, A: 2, B: 2, A: 3, B: 4, A: 4, B: 5

3)

A: 1, B: 1, A: 2, B: 3, A: 3, B: 4, A: 4, B: 5

4)

A: 1, B: 1, A: 2, B: 3, A: 3, B: 5

5)

A: 1, B: 1, A: 2, B: 3, A: 4, B: 5

6)

A: 1, B: 1, A: 3, B: 3, A: 4, B: 5

7)

A: 1, B: 2, A: 2, B: 3, A: 3, B: 4, A: 4, B: 5

8)

A: 1, B: 2, A: 2, B: 3, A: 3, B: 5

9)

A: 1, B: 2, A: 2, B: 3, A: 4, B: 5

10)

A: 1, B: 2, A: 2, B: 4, A: 3, B: 5

11)

A: 1, B: 2, A: 2, B: 4, A: 4, B: 5

12)

A: 1, B: 2, A: 3, B: 3, A: 4, B: 5

13)

A: 1, B: 2, A: 3, B: 4, A: 4, B: 5

14)

A: 2, B: 1, A: 3, B: 3, A: 4, B: 5

15)

A: 2, B: 2, A: 3, B: 3, A: 4, B: 5

16)

A: 2, B: 2, A: 3, B: 4, A: 4, B: 5

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