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 >= 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

        if i < 0:

            break this else, and go to next loop

printout “The minimum number of coins is: ” and number of the value in the num_list.

for i in the list num_list:

    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

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

A B 0
A 1
A 2
B 1
B 2
A 2
A 3
B 2
B 3
A 3
A 4
B 3
B 4
A 4
A 5
B 4
B 5
A 5
Yes
No