

## Lab 2 – Algorithms Problem Statement



### Question 1

Marks (8)

PayMoney. processes thousands of transactions daily amounting to crores of Rupees. They also have a daily target that they must achieve. Given a list of transactions done by PayMoney and a daily target, your task is to determine at which transaction PayMoney achieves the same. If the target is not achievable, then display the target is not achieved.

### TestCase 1

Enter the size of transaction array

3

Enter the values of array

20 12 31

Enter the total no of targets that needs to be achieved

2

Enter the value of target

21

Target achieved after 2 transactions

Enter the value of target

19

Target achieved after 1 transactions

### Explanation

Target 1 i.e 21 is achieved after 2 transactions, (20 + 12)

Target 2 i.e 19 is achieved in the 1st transaction itself.

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### Test Case 2

Enter the size of transaction array

1

Enter the values of array

100

Enter the total no of targets that needs to be achieved

1

Enter the value of target

101

Given target is not achieved

**Explanation** → Since there is only 1 transaction that is of 100 and the target value is 101, hence target is not achieved.



### Question 2

**Marks (12 )**

You are a traveler and traveling to a country where the currency denominations are unknown and as you travel, you get to know about the denomination in random order.

You want to make a payment of amount x, in such a way that the number of notes you give is minimum.

//Assume that the denominations are in such a way that any amount can be paid.

### Input

Take input of all the currency denominations ( random order)

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Take input of the amount that you want to pay.

### Output

Print the minimum no of notes that you will be using to pay the net amount.

### TestCase 1

Enter the size of currency denominations

3

Enter the currency denominations value

5

1

10

Enter the amount you want to pay

12

Your payment approach in order to give min no of notes will be

10:1

1:2

### TestCase 2

Enter the size of currency denominations

5

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Enter the currency denominations value

60

5

12

78

25

Enter the amount you want to pay

128

Your payment approach in order to give min no of notes will be

78:1

25:2

### TestCase 3

Enter the size of currency denominations

4

Enter the currency denominations value

12

5

123

18

Enter the amount you want to pay

158

Your payment approach in order to give min no of notes will be

123:1

18:1

12:1

5:1