



e-Yantra Robotics Competition Plus (eYRC+ 2015) <eYRCPlus-PS1#603>

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Note: First complete the **Task 2_Practice** to answer the following questions.

Scope of the task

(7)

Explain the algorithm used to perform the task given in Task2_Practice folder.

Answer format: Bulleted form

1. Step 1

Read the numbers from the test inputs as a list.

2. Step 2

Sent a number from D2 list to function sumCheck that prints the addition Of the numbers equal to the number sent. Then delete those numbers from the D1 list

3. Step 3

Repeat this for every number in D2 list and print all the possible solutions.

4. Step 4

Now rotate the list D1 so that the placement of number changer and again repeat the whole process. This gives us various solution that covers most of the numbers in D2

Algorithm Implementation

(6)

Answer the following question. For this part use the inputs given in "Task2_Practice/Test_inputs" folder.

For each of the three test inputs, what will be the solution according to your algorithm?

Answer format: Bulleted form

1. Solution for Test input 0

Solution: $5 = 3 + 2$
 $10 = 6 + 4$
 $6 = 1 + 5$
 $11 = 9 + 2$
 $15 = 7 + 8$

Solution for Test input 1

Solution: $2 = 2 + 0$
 $10 = 7 + 3$
 $6 = 5 + 1$
 $12 = 9 + 3$
 $14 = 8 + 6$

3. Solution for Test input 2

Solution: $16 = 9 + 7$
 $10 = 5 + 5$
 $14 = 7 + 7$
 $10 = 5 + 5$

Software used

(7)

Write down the answers to the following questions.

1. Write a function in Python or C to make a number by adding numbers in a given array.

Write a function:

Sum_of_number (Given array, Required_number)

which takes two arguments:

- a. *Given array*: array of 10 numbers. Numbers can be from 0 to 9.
- b. *Required_number*: an integer ranging from 0 to 20.

Output of program should display the numbers that are used to make *Required_number*.

<Answer format:

Code with explanation in the form of comments. >

```
def sum_of_numbers(G_A, req_num):
    #get the length of the array to put array into for loop
    total=len(G_A)
    # iterate the given array and go on adding the numbers of the array
    # to get the required sum of the required number
    for n in range(0,total-1):
        for j in range(0,total-1):
            #add the 2 numbers from the list then check whther they are equal to
            #the total of the number
            added=G_A[n]+G_A[j+1]
            if added==req_num:
                #just print the number when the addition is equal
```

```
print G_A[n],"+",G_A[j+1],"=",req_num
```

```
sum_of_numbers(given_array,req_num)
```

output:

INPUT:-

GIVEN ARRAY:1 2 1 3 7 6 2 9 8 1 5 4

Required no:15

Output:

7 + 8 = 15

6 + 9 = 15

9 + 6 = 15

8 + 7 = 15

