

**19CSE205 – Program Reasoning – Assignment – 3**

1. For the following programs, come out with the exhaustive set of test cases without implementing the programs. i.e. input-expected output pairs.
  - a. A program that computes the sum of two input integers A and B.
  - b. A program to find the remainder when an integer A is divided by an integer B.
  - c. Consider a currency system in which there are notes of six denominations, namely, Rs. 1, Rs. 2, Rs. 5, Rs. 10, Rs. 50, Rs. 100. If the sum of Rs. N is input, write a program to computer smallest number of notes that will combine to give Rs. N.
  - d. A program to calculate the sum of all the digits of an integer N.
  - e. Given an Integer N, write a program to reverse it.

Test cases	Problem 1a	Problem 1b	Problem 1c	Problem 1d	Problem 1e
Test case 1	<in-out> pair				
Test case 2					
Test case 3					

2. First complete Question 1. Now implement the programs and check against test cases. Mark each test case as pass or fail for every problem.

Test result	Problem 1a	Problem 1b	Problem 1c	Problem 1d	Problem 1e
Test case 1	P/F				
Test case 2					
Test case 3					

3. After completing Question 2, do you feel you should have added more test cases to problems in Question 1. If so, what are they?
4. Come out with exhaustive test cases (input-expected output pairs) for the following problems in codeforces. Provide a reasonable justification as to why you think the test cases are exhaustive.
  - a. Left-handers, Right-handers, ... - <https://codeforces.com/contest/950/problem/A>
  - b. Diagonal Walking - <https://codeforces.com/contest/954/problem/A>
  - c. King's Race - <https://codeforces.com/contest/1075/problem/A>