**Problem Solving – Set 1**

**Instructions:**

> Two questions to be attempted from given 3 problems

> Problem 1 is mandatory

> Option between Problem 2 and Problem 3

> Time 40 mins

**Problem 1** – Design Automated Teller Machine. Given there are notes with denomination of Rs. 10, 50, 100, 500 and 2000 in the ATM and a certain amount you want to take out.

The ATM machine shall dispense the max currency note available first and then the next lower denomination.

For e.g. Amount to be dispensed = Rs 2760. The notes dispensed will be 1 Rs 2000, 1 Rs 500, 2 Rs 100, 1 Rs 50, 1 Rs 10.

**Problem 2** – Provide an implementation for custom thread pool in java without executor framework.

**Problem 3** – Write a program to sort HashMap by value. Take Map values of your choice.