# Lab 8 Advanced Programming

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## Introduction:

Change making problem is used to calculate the number of coins needed to change some amount A with the help of some given coins.

## How to Run:

Make a project in NetBeans with name “ChangeMakingProblem”. Copy the code in main class from ChangeMakingProblem.java file and run. For tests, Create Test in IDE and copy code from ChangeMakingProblemTest.java file.  
To run from cmd, you have to remove the package included in the code then compile the code using javac and run using java.

## Description:

Change making problem is implemented using Greedy Algorithm and Dynamic Programming. Both the methods take the same input and returns the number of coins needed.

## 10 numbers for which the dynamic programming solution is optimal:

For the given set of coins, both greedy and dynamic programming solution work alike. Both uses the same number of coins so, there are no such numbers for which dynamic programming solution is optimal.

## Github Link:

<https://github.com/samra-nasir/ChangeMakingProblem>