

CEN 133 Hw 1

Problem 1 (50 pts.) **In this problem you are requested to check a number whether it is prime or not.**

- a)** Design an algorithm to check whether the given number is prime or not. Write the algorithm as a textual notation (pseudocode).
- b)** Draw the graphical representation (the flow chart diagram) of the algorithm that you designed in a).
- c)** Implement the algorithm as a Scheme program. Please be careful about all design stages (Contract, Purpose, ...).

Note: Be careful that if the algorithm in a) is not correct, then all other items become WRONG.

Problem 2 (50 pts.) **In this problem you are requested to find the sum of all prime numbers starting from 0 and ending at 999.**

- a)** Design an algorithm to find the sum of all prime numbers starting from 0 and ending at 999. Please use the prime number algorithm in a) as a helper function. Write the algorithm as a textual notation (pseudocode).
- b)** Draw the graphical representation (the flow chart diagram) of the algorithm that you designed in a).
- c)** Implement the algorithm as a Scheme program. Please be careful about all design stages (Contract, Purpose, ...).

Note: Be careful that if the algorithm in a) is not correct, then all other items become WRONG.

Deadline: 4. November. 2010, 23:59

Submission: Please submit your homework to the grader by e-mail until the deadline.

(Grader: Deniz Ozsoyeller, e-mail: deniz.ozsoyeller@izmir.edu.tr).

Homework Policies:

1. Cheating is strongly discouraged.
2. Late homeworks will be graded as 0.
3. The file format for the homework:
 - Please write the textual notations of the algorithms in Word and save as a “.doc” document.
 - You can draw the flow charts in Power Point or any other graphical editor program. But export the charts as JPG, GIF or PNG format. Do not send .ppt files. Please make a google search for any information you want to learn. A good engineer should know how to use internet for gaining knowledge.
 - Please implement the codes in Dr Scheme (racket).
4. File naming for the homework:

This file naming is strict: problem1a.doc, problem1b.jpg, problem1c.ss
Problem2a.doc, problem2b.jpg, problem2c.ss

Put all these files under the directory CEN133Hw1_“YourStudentNo”

example: CEN133Hw1_80201022

Archive these files as: CEN133Hw1_“YourStudentNo”.zip

example: CEN133Hw1_80201022.zip

5. When sending the homework please send only 1 zip archive including all the files. The subject part of your e-mail should be CEN133Hw1_80201022.

Note: Please obey these grading policies, unless your grade will be decreased.

Asst. Prof. Dr. Orhan Dagdeviren

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