

Istanbul Bilgi University

Department of Computer Engineering

Fall 2019-2020

CMPE 100: Introduction to Computing

Worksheet07

1. (20 points) Design a Racket function named **countDigit** that takes a number and count the digit/s of given number.

countDigit: number \rightarrow number

(countDigit 123)

3

(countDigit 64109)

5

2. (20 points) Design a Racket function named **sumDigit** that takes a number and sum the digit/s of given number.

sumDigit: number \rightarrow number

(sumDigit 123)

6

(sumDigit 64109)

20

3. (20 points) Design a Racket function named **findProperDivisor** that takes a natural number and calculate the sum of all its proper divisors. A proper divisor of a natural number is the divisor that is strictly less than the number.

Examples:

Input: 20

Output: 22

//Proper divisors: $1 + 2 + 4 + 5 + 10 = 22$

Input: 36

Output: 55

//Proper divisors $1 + 2 + 3 + 4 + 6 + 9 + 12 + 18 = 55$

Note: Ensure that your programs are fully documented, using comments.