

Session 2 – Programming Challenges

Read chapter 2 of zyBooks – Intro to Programming.

Students should master the following topics:

1. Arithmetic operators
2. Escape Sequences
3. Variable and assignments
4. Data types
5. Constant variable
6. Integer division and modulus

Problems: (Descriptions on the next page)

Simple Statistics

Pay Increase

Coin Calculator

Grade Activities:

1. All programming projects functionally complete
2. Good software engineering practices:
 - a. Good use of white spaces
 - b. Variable nomenclature
3. Maximum points for this session – 15 points

Simple Statistics

Write a program that reads in ten whole numbers (in any order) and that outputs the following statistics of them:

1. the sum of all numbers entered
2. average of all numbers entered

Test your program for various inputs.

Pay Increase

SNU Company announced to give a 7.5% pay increase to all employees. Write a program that takes an employee's previous annual salary as input, and outputs the new annual salary, and the new monthly salary. Use a variable declaration with the modifier *const* to express the pay increase.

Coin Calculator

Write a program that allows the user to enter a number of quarters, dimes, and nickels and then outputs the monetary value of the coins in cents. Now extend the program so that the user to enter the changes in cents and calculates the coin denominations for the cashier.

Sample output:

Enter the number of quarters: **1**

Enter the number of dimes: **2**

Enter the number of nickels: **3**

Total coins worth 60 cents

Enter the changes (in cents): **87**

3 Quarter(s), 1 Dime(s), 0 Nickel(s), and 2 pennies