

113-1 Mid Term

Name:

Student ID:

In this exam, you can use computers and books without AI like chatGPT to answer questions. Please upload programs of your answer. Each answering program corresponds to a question below. They are named 1.java, 2.java, ..., , 7.java and a zip file of (8).

Questions (total 100%):

- (1) Please give a declaration for 4 variables (primitive data types respectively: integer, character, float and double), read them, and print their values in format. (10%)
- (2) Please write a for loop to copy a sentence “You are welcome.” into an array, print the copied string. (10%)
- (3) Please write a for loop to add two integer matrices with size 2*2, and print the resulted matrix. (10%)
- (4) Please write a for loop to multiply two integer matrices with size 2*2, and print the resulted matrix. (10%)
- (5) Please write a Java function to split a string to words in an array. For example, split a string “You are welcome.” into 3 words into an array. (15%)
- (6) Please write a Java program to read two double float numbers, read an arithmetic operator (+, -, *, /, =), execute arithmetic operations on these double float numbers, and display the result on screen. (15%)
- (7) Please write a Java program to read double float numbers and arithmetic operators, respectively. Furthermore, craft effective user information to guide operations. This arithmetic expression should take input more than four items. Your design should display this arithmetic expression when users input ‘=’. (15%)

- (8) Please design a Java project with inherent classes for Armstrong numbers. The inheritance design can make a class for input and another class for checking Armstrong. (15%)