Exam 2 Sec 011 Feedback (SE1011)

Problems 1 & 2

① -1 Off-by-one. Does not print last character or crashes by attempting to print one character beyond the end of the string.

② -0.5 Use = for assignment, == for primitive type comparison, and .equals for String comparison (i.e, for object comparison).

③ Using Character.toString(…) is good, but not necessary when using +. (It happens "in the background" automatically.)

④ -0.5 Need to specify the object (String) when using charAt: str.charAt(i);

⑤ -0.5 Indentation. (±0 for marginal cases)

⑥ -0.5 else: Better to use "else" here to make it clear only one subordinate block will execute.

⑦ -0.5 Missing), } or ; where use is obvious.

⑧ -0.5 Do not specify return type when using methods, only when declaring.

⑨ -1 result=""; Need to initialize the string so it has a value the first time we append to it.

⑩ -0.5 'a' for char, "a" for string.

⑫ ±0 Hit the limit for this sort of error. (No more than 1 point off for missing semicolons, etc.)

⑬ ±0

Problem 4abcd

① Write the method, not the use of the constructor

-0.5 Writing both (Can't use a method outside a method implementation!)

② -1 Missing type for argument or instance variable

③ -1 Constructors do not specify a return type, need return type for other methods

④ -1 Missing access specifier (i.e., access modifier)

⑤ -0.5 Indentation. (±0 for marginal cases)

⑥ ±0 "this." only needed when instance variable hidden by local variable.

⑦ -0.5 Should set levelCm to 0, as specified in instructions.

⑧ -1 Should set capacityCm to the specified value.

⑨ ±0 Remember units on variable names.

⑩ -0.5 = for assignment, == for equality comparison.

⑪ Java is case-sensitive. Try to use the right case.

⑫ Second mistake "free" or "reduced price."

⑬ -1 Need to check for "overflow" or "underflow" after filling/draining cup, or compute what the level will be before checking.

⑭ -1 Need to increment/decrement by amountCm, not just set to it.

⑮ -1 Attempt to use non-existing instance variable. "Amount" does not need to be an instance variable. If we made it one, it would just increase the chance of having bugs in our program.

⑯ -3 Missing overflow/underflow checks entirely. (See also ⑬.)

⑰ -2.5 Not the name and/or arguments specified in the UML diagram.

⑱ -0.5 Premature end of method.

Problem 5

① -1.5 Cup overflow. Cup levelCm cannot go above capacityCm. (And capacityCm does not change after the cup is created… hmm, maybe it should be final!)

② Wrong type

±0 double ref instead of double

-0.5 missing ref on reference type

-1 other errors

③ ±0 Stuff written in reference boxes that have arrows. Nothing needed here!

④ Multiple instance of variable

⑤ Arrow points wrong way

⑥ -0.5 Missing type on Cup object