

CS1101X Mid-term test (AY2008/9 Semester 1)

Comments on results

Answers are available on http://www.comp.nus.edu.sg/~cs1101x/3_ca/termtests.html

The following table shows the percentage of students who gave the different answers to the MCQs.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Answer	C	A	B	B	A	C	B	C
% chose A	8.3%	94.8%	0.0%	3.1%	91.7%	46.9%	4.2%	10.4%
% chose B	1.0%	3.1%	88.5%	88.5%	2.1%	0.0%	27.1%	0.0%
% chose C	78.1%	0.0%	0.0%	4.2%	0.0%	47.9%	3.1%	86.5%
% chose D	11.5%	2.1%	1.0%	0.0%	3.1%	0.0%	3.1%	2.1%
% chose E	1.0%	0.0%	10.4%	4.2%	3.1%	5.2%	62.5%	1.0%

	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Answer	C	D	C	B	D	E	C
% chose A	1.0%	1.0%	4.2%	0.0%	0.0%	0.0%	0.0%
% chose B	52.1%	2.1%	10.4%	70.8%	16.7%	0.0%	19.8%
% chose C	46.9%	6.3%	69.8%	3.1%	2.1%	6.3%	55.2%
% chose D	0.0%	89.6%	11.5%	0.0%	72.9%	3.1%	2.1%
% chose E	0.0%	0.0%	4.2%	26.0%	8.3%	90.6%	22.9%

Most difficult MCQs:

- Q7: Only 27.1% got it right
- Q9: Only 46.9% got it right
- Q6: Only 47.9% got it right

Statistics for MCQs:

- Lowest mark: 3
- Highest mark: 15 (3 students)
- Average mark: 11.0
- Median: 12
- Standard deviation: 2.4

Statistics for all questions:

- Lowest mark: 3.5
- Highest mark: 20 (2 students)
- Average mark: 14.5
- Median: 15.75
- Standard deviation: 3.6

The three most difficult MCQs

You could verify the answers by running the programs.

For **Q7**, only option (i) is correct. What's wrong with options (ii) and (iii)? They cause the "variable isEven might not have been initialized" error during compilation.

I remember I discussed this during lecture, using the CheckNRIC program. The compiler does not gather meaning of your statement. For option (ii), there is no "else" part for both the 'if' statements. So what if both conditions are false (you know that never happens, but the compiler does not)? In that case, there will be value assigned to the isEven variable. Likewise, the absence of the "default" case in option (iii) causes the compilation error.

For **Q9**, the most popular choice is option (B), which is very close to the correct answer (C). When a Breakpoint is reached, that statement is not executed yet. Hence sentence still contains "this is a test".

For **Q6**, we know the difference between the **next()** method and the **nextLine()** method. When 2008 is entered followed by the enter key, "2008" is read into the variable year, and the remaining text in the input buffer is assigned to the variable name. Hence the answer is option (C). Try to run the program and enter: 2008 John Smith on the same line. "2008" would be read into year, and the remaining text " John Smith" would be read into name.

Comments on Q16 – Q18

The average score for **Q16** is 1.7 with a standard deviation of 0.5 means that it was quite well attempted. Most used a doubly-nested loop. Only a handful used a single loop, but none of them got it right.

A number of students wrote \leq instead of \leq . We are particular about this because programming is not mathematics, hence you should not use mathematical notations in your programs. We also do not accept spellings such as 'if', 'While', etc.

The average score for **Q17** is 1.2, making this question not well attempted. It also has a much bigger standard deviation of 1.0 compared to Q16. This means that students were not able to trace a doubly-nested loop on an array, and this warrants more practice. The most common wrong answer given is 1 3 6 10 15.

The average score for **Q18** is 0.6, making it on par with Q17. We were quite lenient in grading this question, giving full mark when the answer is incorrect but close enough to the correct answer.

Prepared by Aaron Tan

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