

SAMPLE EXAM QUESTIONS

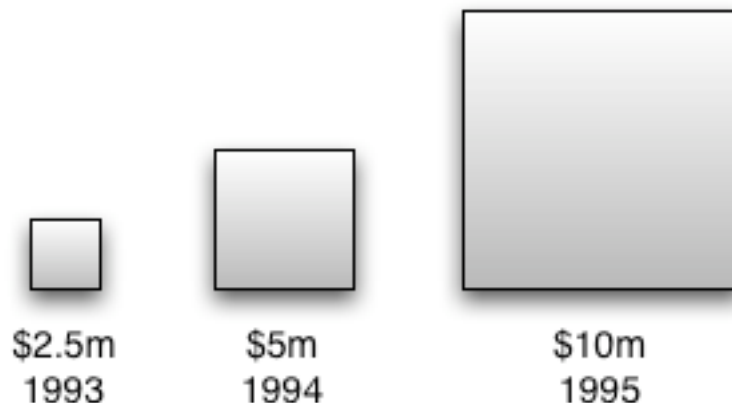
CSE5910 Multimedia Programming in Java

Section A : Java Programming

1. In the context of Java, what is a `.class` file. What is it for? (~3 lines)
2. What is the role of the Java interpreter? How does it contribute to making Java software portable across various computer platforms? (~4 lines)
3. Draw a diagram illustrating the concept of *abstraction hierarchies* and *inheritance*. Explain the concept of *abstraction* beneath your diagram. (~3 lines + diagram)
4. Explain the concept of *encapsulation* in Java programming. Give sample code if it will help to illustrate your answer. (~6 lines)
5. In the context of computer languages, what is *typing*? Give some examples illustrating Java's enforcement of typing. (~6 lines)
7. What is an array *literal*? Write some Java code to define one. (~2 lines)
8. What is garbage collection? When does it occur in a Java program? (~3 lines)
9. Write some Java code to compare two objects of a user-defined type `Person` that contains a string for the person's name and an integer storing their age. (code)
10. What is the interface `Serializable`? Write some sample code illustrating it in action on the class `Person` discussed in question 9. (~4 lines + code)

Section B : Multimedia Design

1. What is a *foley* artist? (~2 lines)
2. What are the four types of user interaction task? Name each and explain what it involves. (~8 lines)
3. What are some important considerations in deciding where on the screen to place buttons for activation by a user operating a mouse cursor? Draw a diagram to help illustrate your answer. (~6 lines + diagram)
4. If you were asked to design an interactive information kiosk for a shopping centre foyer, what device would you wish to include for users to specify the name of the shop they wish to visit (e.g. Myer, Coles, Smart-Shoes) or the type of goods they are hoping to buy (e.g. gifts, groceries, shoes)? Explain the reasoning behind your decision. (~5 lines)
5. Explain how the map of the London Underground designed by Harry Beck in 1933 was a break-through in cartography. (~5 lines)
6. Explain how the map produced by Snow in 1854 allowed him to isolate the cause of the Cholera epidemic in central London. (~5 lines)
7. Below is a diagram illustrating escalating construction prices over a period of 3 discrete years. Approximately what is the visual relationship between the size of the building (box) in the diagram and its cost? Why is this misleading? Redraw the diagram in a more appropriate way. (~3 lines + diagram)



8. In the context of interface design, what is meant by the need to, “accommodate multiple skill levels”? Why is this important? Give two examples of real interactive machines or devices that abide by this principle and two that do not. (~6 lines)

9. Explain the differences between the subtractive and additive colour systems. (~6 lines)
10. Explain how coloured regions are specified in a bitmap image. (~4 lines)
11. What is *kerning*? Illustrate your answer with a diagram. (~2 lines + diagram)
12. What are two common typeface families? How do they differ from one another? You may illustrate your answer if it improves your explanation. (~3 lines + optional diagram)
13. (a) Design an icon set to represent the following weather conditions for use on a weather map: (i) rain (ii) sunshine (iii) storms (iv) wind (v) clouds. Write a note under your icons that explains how (or if) you would use colour in your designs.

(b) Design some further icons *in the same set* that represent: (i) a cloudy and windy day (ii) a rainy and stormy day (iii) a rainy windy day with late sunshine.
14. Explain the purpose of M.I.D.I (Musical Instrument Digital Interface). Why is it useful? (~4 lines)
15. What is the envelope of a sound? Draw and label a diagram of the envelope for the sound of a person dragging their fingers across a blackboard. On the same diagram, add an envelope for the sound of a door slamming. (~2 lines + diagram)

END OF PAPER