PFI re-exam, 18 August 2017
Answers

1. a, c and d. [5 marks for a completely correct answer, 0 marks for an incorrect answer]
2. a, b, c and d are true. [5 marks for a correct answer, 0 for an incorrect one]
3. 3
   2
   1
   0
   [5 marks for a completely correct answer, 0 for an incorrect answer]
4. a) No maximum – a LibraryMember can borrow any number of Copy objects.
   b) 1
   c) No
   d) Yes
   e) Boolean
5.
```
6.0 4
1.0 2
6.0 4
```
6. bs: a, c, d, f
   cs: a, b, d, e
   sums: c, f
   products: b, e
   quotients: a, d
   [1 mark for each fully correct array]
7.
```
0 2 0
2 4 0
4 6 0
```
[5 marks for a completely correct answer, 0 for an incorrect answer]
8. a) composition
   b) ChessBoard
   c) No
   d) No
   e) Yes
   [1 mark each]

9.
```
0
9
sixteen
16
twenty-one
sixteen|
21
24
```
[5 marks for a correct answer, 0 for an incorrect answer]

10.
```
7.0
5.02
7.0
7.0
5.02
```
[1 mark for each correct line]

11.
```
6
5
4
3
2
1
4
3
2
1
0
```
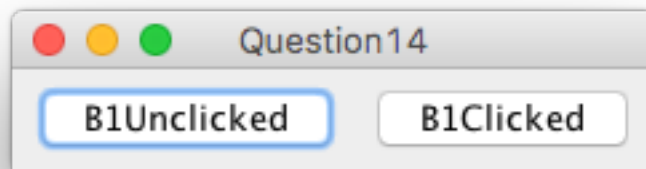[5 marks for a completely correct answer, 0 marks for an incorrect answer]

12. a) i, ii and iii are possible outputs.

b) Causes the current thread (the main thread in this case) to stop executing for approximately 500 milliseconds.
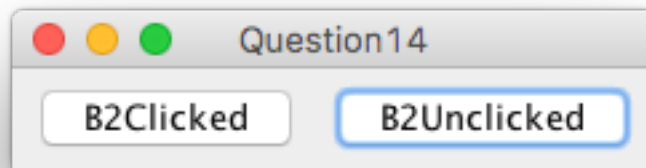
c) Because the sleep method of the Thread class throws an InterruptedException if the interrupt flag of the current thread has been set.

d) Runnable is an interface.

e) The interrupt method sends an interrupt request to this Thread, which sets its interrupted flag.

[1 mark each]

13. a) Question13Server

b) Nothing

c) cormorant

d) Converts a stream of bytes into a stream of characters.

e) No, because the client opens a socket to port on "localhost" which refers to the same machine as the server is running on.
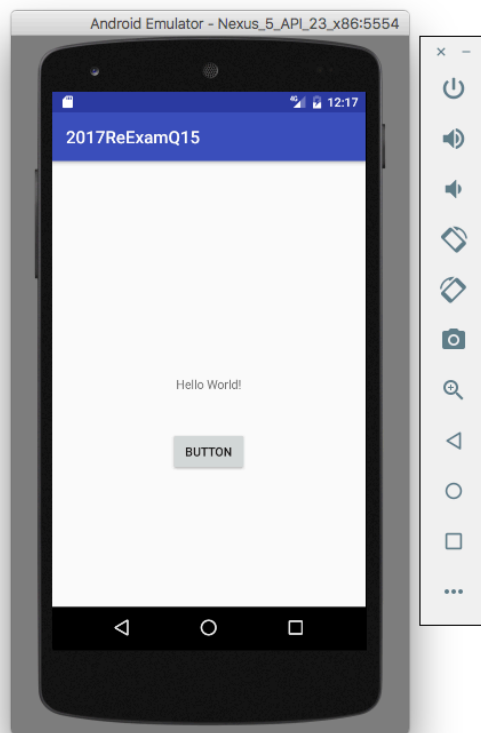
14. a)

b) The Question14 object instantiated in line 33.

c)
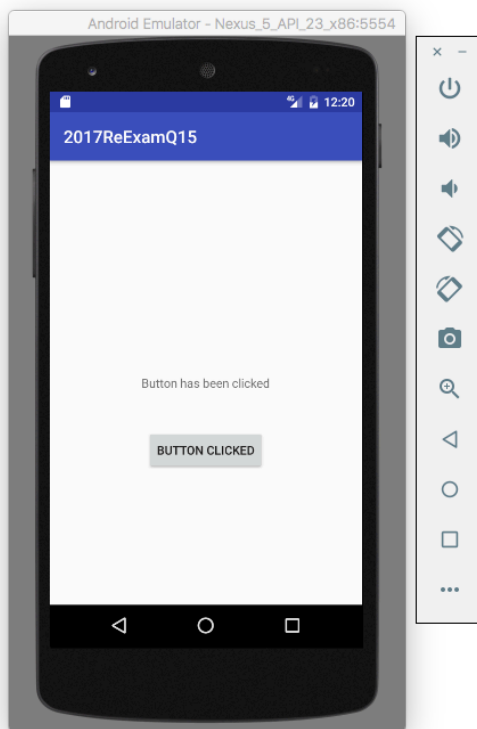

d) The pack method calculates the final position and size of each component in the GUI in preparation for making the GUI visible.
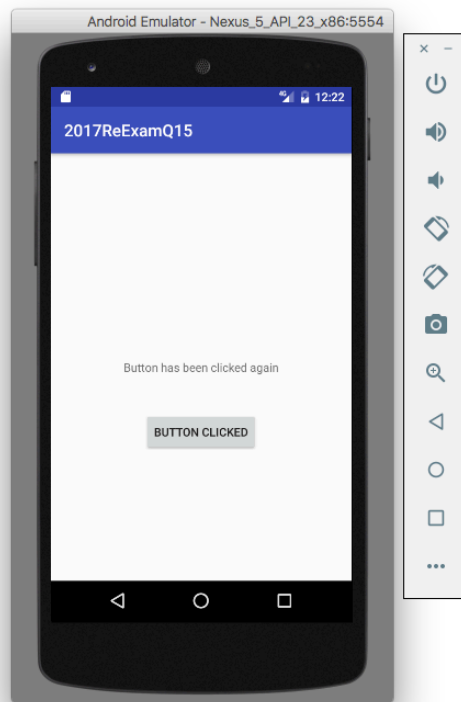
e) The event dispatch thread.

15. a)

b)

c)

d) Line 35 in activity_main.xml
e) TextView's id is specified in line 17 of activity_main.xml
f) The numeric value of TextView's id is automatically generated and defined in R.java as a field of the static class, id, which is an inner class of the class R.
g) Lines 12-18 of AndroidManifest.xml
h) The Button object itself is passed to the buttonPressed method.
i) The View object passed to buttonPressed is typecast to a Button object. This is necessary in order to be able to call the "setText" method on the button in line 24 of MainActivity.java.
j) Line 18 in MainActivity.java.
[10 marks, 1 mark for each part]