

TUTORIAL 3

- 1. Describe the main difference between the way information is stored in:
 - an array of primitive data values, for example integers
 - an array of objects
- 2. Describe the contents of the array players after the following lines of code have been executed:

Player[] players; players = new Player[4];

- 3. What is the effect of the keyword static in a variable declaration?
- 4. What keyword indicates that a value cannot be changed once it is initialised?
- **5.** What coding pattern is implemented by declaring a field in one class which is an array of objects whose type is the name of another class?
- 6. Explain the difference between a class diagram and an object diagram.
- 7. What kind of loop would you use if:
 - you don't know how many times the loop will be executed

AND

- you want to ensure that the code inside the loop is executed at least once
- **8.** What is name of the method which is the entry point for a standalone Java application?
- 9. Look at the following code:

```
int[] myArray = {1,1,0,0,0};
for(int i=2;i<5;i++)
{
    myArray [i] = myArray [i-2] + myArray [i-1];
}</pre>
```

What values does the array myArray contain after this code has executed?

10. Explain the difference between unit testing and system testing.

11. The following method calculates an employee's pay.

```
public double calculatePay(Employee emp,int hours,double rate)
{
    // detail omitted
}
```

Write a Javadoc comment which would correctly document this method.

12. Look at the following Java classes. For brevity, all fields are public and getters/setters are not included.

```
public class Point
{
  public int x, y;
  public Point(int x, int y)
  {
        this.x = x;
        this.y = y;
  }
}
public class Circle
{
  public Point centre;
  public Integer radius;
  public Circle(int x, int y, int radius)
  {
        this.centre = new Point(x,y);
        this.radius = new Integer(radius);
  }
}
public class TestClass
{
  public static void main(String[] args)
  {
        Circle circ = new Circle(4,5,3);
  }
}
```

How many objects are created when the main method runs?