

ArrayList Revision Question

- a) Copy the file `Student.java`. Add `toString()` and `equals()` methods, then compile and test it.
- b) Write a Java program which declares an `ArrayList` of `Student` objects. The program should then instantiate three `Student` objects and add them to the `ArrayList`.
- c) Display the details of each `Student` object in the `ArrayList` on screen.
- d) Add code which displays the number of `Student` objects in the `ArrayList`.
- e) Add code which prompts the user to enter in a `Student` number, and then searches the `ArrayList` for this `Student`, and displays the student details on screen. If the student is not found a suitable message should be displayed.
- f) Write code that will calculate and display the average mark for all the `Students` in the `ArrayList`. (Total all the marks and divide by number of students).
- g) Write code that prints the details of all `Students` who have failed (marks less than 40)
- h) Write code that prints the details of all `Students` who have a distinction (mark greater than 70)
- i) Write code that prompts the user to enter a name. Your code should count and display the details of all `Students` with this name.
- j) Add code which prompts the user to enter in a `Student` number, then deletes this student. If the student is not found a suitable message should be displayed.

```
public class Student{
    private String name;
    private int idNumber;
    private double mark;

    public Student(String nameIn, int idNoIn, double markIn) {
        name = nameIn;
        idNumber = idNoIn;
        mark = markIn;
    }
    public String getName()
    {
        return name;
    }

    public int getIdNumber()
    {
        return idNumber;
    }

    public double getMark(){
        return mark;
    }
}
```