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for
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Environments: The Java Library

(marking sidetrack :   0-39 % fail
40 - 49 % Third / pass
some correct but flawed

50 - 59 % 2/2 satisfactory

60 - 69 % 2:1 good, professional

70 - 79 % first

80 - 89 % prizeworthy - one of
the best in ECS

90 - 100 % one of best in UK this
year.

Lab marks: 0-5   0 - part not attempted

1 - some code, class shells,
no significant steps, may not
compile.

2 - showing promise but buggy or
incomplete

3 — functional but not meeting spec
or poor style

4 - complete + correctly meets
spec, room for improvement. First

5 - 100% - flawless, exceptional

Arrays   vs   ArrayList

ArrayList can grow + shrink   cut AList

Generics

A mechanism to specify the type allowed (cats / dogs etc).

`ArrayList <Dog> kennel = ...`

The Java Library

full of useful classes, but also complexity. encapsulation.

Library must be imported using an import statement. There is little extra overhead (except for compiler) to import entire package.

Library included in Java to runtime + dev environments

docs online http://docs.oracle.com/javase/8/docs/api/

example:

Strings are objects. Classes begin with Caps and so does String. (No need to import these, or Main)

Identity vs Equality

identity looks at reference rather than value.

name 1 == name 2 is false ~~equality~~ identity if 2 have same name but different places

see slides about 'Harry'

Ex 2   Hashmaps

map a key to a value, like a simple phonebook

```
book.put ("Alfie");
book.get ("Alfie");


import java.util.HashMap
```