Summary week beginning 14/9/15

Program Parts

Intro to package, Class (container for code), methods(the workhorse), object?

Some classes used*: JOptionPane, String, Integer*

Class header ( public class ClassName)

main method, method header……*public static void main(String [] args)*

other methods?

Some Class methods used: *parseInt(….), showMessageDialog(….), showInputDialog(…), format(….)*

Classname.method(..,…,…) e.g. *JOptionPane.showMessageDialog(null,“welcome”);*

Assignment statement……*name =JOptionPane.showInputDialog(“Enter Name”)*

Java API

Variables vs Arguments vs Parameters

Recap of conditional and looping structures (*If….Switch…For….While….Do..While*)

{ } brackets (start and finish things)

Data Types …*String*….primitive data types…..*int, float, double*

Declaring variables…..*int age;*

Week beginning 21/9/15

Recap last week

Java API

Naming Convention……lowercase, Uppercase, camelCase

Method header…modifiers, returntype, parameter type, parameter.

*static* keyword

User defined methods….how to call them, passing arguments (pass by value)

Scope *public, private* (can apply to variables, methods, classes)

User defined class………e.g.Person

objects….instance of a class? *new* keyword

Week beginning 28/9/10

Abstraction, capture only those details about an object that are relevant to the current perspective

Class as a blueprint

Object…..as an instance of a class..instantiation

Attributes…instance methods

Instantiable Class (Attributes/methods)

Types of methods Constructors/accessor/mutator

Week Beginning 5/10/15

Different kinds of classes

Types of Classes

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--- Utility classes ---- Collection classes--- Math

--- Wrapper classes

--- GUI/graphics classes

--- Instantiable classes

---- I/O classes

--- Network classes

--- Exception classes

Class

--- methods—class,instance

--- attributes/instance variable/data member/fields/class variables/constants

Encapsulation, information hiding, public interface

Method overloading

Scope of attributes/methods

True encapsulation

Class methods attributes versus instance methods and attributes

Keyword *static*

UML

UML class diagram

View of Participating classes

Keyword *this*

Instantiable class: Animal

Design

Driver classes: Zoo

Test classes

Array of objects…creating, populating processing and displaying

19/10/2015

Four basic principles of OOP- Encapsulation, Abstractions, Inheritance, Polymorphism

Driver classes

Test classes

Javadoc – see student example

Fraction class (Test first)

Aggregation/Composition ‘has a’ relationship

Class diagram

Method overloading/overriding

JUnit tests--- see notes

Inheritance ‘is a’ relationship

Superclass/Subclass

Interface

Creating an instance of a class within the class definition, compile time verus runtime