



THE UNIVERSITY OF
MELBOURNE

SWEN20003 Workshop

Week 04

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Workshop tasks

1. Go through questions
2. Divide groups
3. Do questions in order Q1, 2, 5, 6, 7, 4, 3
4. Take attendance & Record people in group this time



What is the difference between public and private?

Hint: Consider accessibility



What is the difference between public and private?

Public Allows access to any other object

Private Allows access to only the owning object

Information hiding: hiding attributes and methods from the user of the class,
e.g. using the private keyword.



When is it appropriate to use public/private for methods and variables?



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All instance variables should be private, with the exception of constants and (maybe) immutable variables.

Methods are generally public, with the exception of “helper” methods, that are not useful to any class but the owner



If an instance variable is private:

- What additional methods do we add to a class?
- What purpose do these methods serve?
- When do we not add them?



If an instance variable is private:

- What additional methods do we add to a class?

If an instance variable is private, we also implement a get and set method, which allow other classes to retrieve or modify (respectively) a variable.

- What purpose do these methods serve?
- When do we not add them?

Getters are almost always implemented, unless there is some reason to keep information hidden from other classes. Setters are generally implemented, unless the class is intended to be immutable.

An immutable object is one whose attributes cannot be changed after it is created.



What is a privacy leak, and what steps can we take to prevent them?



What is a privacy leak, and what steps can we take to prevent them?

A privacy leak occurs whenever class B holds a reference to class A's **private** and **mutable** instance variable, allowing B to modify the variable at will, without A's knowledge. We can prevent privacy leaks by only returning copies of instance variables to other classes.



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Thank you
