THE UNIVERSITY OF MELBOURNE

SWEN20003 Workshop

Week 04

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Workshop tasks

Note: If you don't master this workshop contents, hope for the best for your project … 😅

1. Make sure you are using java 11
2. Show how to clone repo in IntelliJ
3. Show how to commit & push in IntelliJ (add bagelTest to repo)
4. Mark source & resource root
5. Import bagel through maven
6. Run bagelTest.java

Workshop Q3

Previously we have **Main** class for **public static void main(String[] args)** method

The AbstractGame class work as an entry point for your game (you need to extend it)

```
1  import bagel.*;
2
3  public class BagelTest extends AbstractGame {
4      // The entry point for the program.
5      public static void main(String[] args) {
6          BagelTest game = new BagelTest();
7          game.run();
8      }
9  }
```

- **Line 3:** Defines the class - you will learn about `extends` next week.
- **Line 6:** Bagel main class instantiates and object of the same type. calls
- **Line 7:** Calls the `run()` method in the `BagelTest` class.

Where is the `run()` method?

bagel

Class AbstractGame

java.lang.Object
    bagel.AbstractGame

```
public abstract class AbstractGame
extends java.lang.Object
```

The base class for all Bagel games.

Constructor Summary

Constructors

Constructor and Description
`AbstractGame()` Create the game with a default window size (1024x768) and title ("Game").
`AbstractGame(int width, int height)` Create the game with a default title ("Game").
`AbstractGame(int width, int height, java.lang.String title)` Create the game.

Workshop Q3

Method Summary

All Methods	Instance Methods	Abstract Methods	Concrete Methods

Modifier and Type	Method and Description
`void`	`run()` Start the game loop.
`protected abstract void`	`update(Input input)` Update the state of the game, potentially reading from input.

Methods inherited from class java.lang.Object

`clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

As AbstractGame has abstract method **update(Input input)**

You need to implement it (@Override)

The `update` method:

```
1  //Performs a state update.
2  @Override
3  public void update(Input input) {
4     // Your code goes here
5  }
```

About 60 times per second, Bagel:

- Clears the window of images, leaving a uniform colour
- Checks for keyboard or mouse input
- Calls the update method
- `Input` class - will explain in the coming slides

Workshop Q3

The Input class contains the keyboard, mouse action you want to abstract and updates the entities in the game based on the interaction with the user.

java.lang.Object
    bagel.Input

```
public class Input
extends java.lang.Object
```

This class provides access to input devices (keyboard and mouse).

Method Summary

All Methods | Instance Methods | Concrete Methods

Modifier and Type	Method and Description
`Vector2`	`directionToMouse(Point from)` Returns a unit vector pointing towards the mouse from the provided point.
`Point`	`getMousePosition()` Returns the mouse position as a `Point`.
`double`	`getMouseX()` Returns the x coordinate of the mouse cursor.

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Thank you