

7
0 < Assessment name < 20
0 < Assessment value < 100
Tl: NO relationship yet

unit subclass unitassessment

ArrayList of Assessment object - 10 types initial capacity
min 3-parameter + 1 additional
initialise all 4 in super

addAssessment

↳ + new Assessment to ArrayList

Driver class for demonstration only

↳ NOT MARKED

↳ BUT can invoke to show

** Inheritance : wk 10 - 11

Instance variable \Rightarrow non-static variable

static variables = class variables

↳ 1 copy of class variable / class

↳ eg. class \Rightarrow student ; student.getCounterNum()

↳ no need object to exist (call)

↳ eg. private static int counterNum;

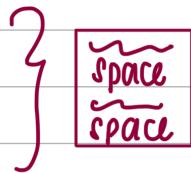
multiple concept class + 1 drivers class \rightarrow CAN

```
public static void main (String [] args) {  
    Person p1 = new Person ("Khan", 20);  
    Student s1 = new Student ("Jenson", 19);  
    Doctor d1 = new Doctor ("Estee", 30);  
    Lecturer l1 = new Lecturer ("MK", 40, LECTURER.POSITION.A);  
    ArrayList < Person > persons = new ArrayList ();  
    persons.add (p1);  
    persons.add (s1);  
    persons.add (d1);  
    persons.add (l1);
```

for loop every element of type person

```
for (Person elem: persons)  
{
```

```
    System.out.println (elem);  
    System.out.println ();
```



change ArrayList → Array :

```
Person [] personArray = new Person [5];
```

```
personArray [0] = p1;
```

```
personArray [1] = s1;
```

```
personArray [2] = d1;
```

```
personArray [3] = l1;
```

```
for (Person elem: personArray)
```

```
{
```

```
    System.out.println (elem);
```

```
    System.out.println ();
```

```
}
```

* Arrays

↳ auto-initialised

(recording wk9 44:40)

public class Enum {

 public enum Size { SMALL, MEDIUM, LARGE, EXTRA_LARGE }

 public static void main (String [] args) {

 System.out.println (Size.LARGE);

 Size pizzaSize = Size.LARGE;

 String output

 switch (pizzaSize) {

 case SMALL:

 output = " small pizza. ";

 break;

 case MEDIUM:

 output = " medium pizza. ";

 break;

 :

 case EXTRA_LARGE:

 output = " extra large pizza. ";

 break;

// INSTANCE VARIABLES

private String name;

private int age;

private Position position;

private enum Position { ACADEMIC_LECTURER, RESEARCH_LECTURER }

The screenshot shows the IntelliJ IDEA IDE with a Java project named 'Week9M'. The code editor displays the 'SchoolDriver.java' file. The code defines a 'SchoolDriver' class with a 'main' method that creates a 'School' object and adds several students. The terminal below shows the command used to run the program and the resulting output. On the right side of the screen, there is a video call interface with a user profile picture and a large letter 'E'.

```
RECORDING WEEK 9_ ForumSReplacementClass.mp4
package Forum1;

public class SchoolDriver {
    public static void main(String[] args) {
        School school = new School("School of IT");

        school.addStudent("Emma", 19);
        school.addStudent("Jack", 19);
        school.addStudent("Lucas Martin Wong Abdullah Lucas Martin Wong Abdullah", 20); // name too long
        school.addStudent("Alyssa", 21);
        school.addStudent("Jack", 19); // rejected, name already exist in students
    }
}
```

```
C:\Users\lmei002.jdk\openjdk-17.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021.3.2\lib\idea_rt.jar=566,C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021.3.2\bin" School : School of IT
Process finished with exit code 0
```

addStudent method (recording W[9 1:18:04])

```
public boolean addStudent (String newName, int newAge) {
    boolean flag = false;
    int i = 0;
    boolean isFound = false;
    while (i < student.size() && !isFound) {
        Student studentElem = students.get(i); (EXPLAIN)
        if (student.get(i).getname().equalsIgnoreCase(newName))
        {
            isFound = true;
        }
    }
}

if (!isFound) {
    Student student = new Student (newName, newAge);
    students.add (student)
    flag = true;
}
```

return flag;

3

```
RECORDING WEEK 9_ForumSReplacementClass.mp4
Project Week9Mk
  src
    main
      java
        Forum1
          Dog
          Lecturer
          School
          SchoolDriver
          Student
          StudentDriver
          Car
          CarDriver
          Enum
          Lecture
          School
          SchoolDriver
          Student
          StudentDriver
        Week9MCml
      External Libraries
      Scratches and Console

public class School {
    private String name;
    private ArrayList<Student> students;
    private ArrayList<Lecturer> lecturers;

    public School(String initName)
    {...}

    public String getName() { return name; }

    public boolean setName(String newName)
    {...}

    public ArrayList<Student> getStudents()
    {
        return students;
    }

    public String toString()
    {
        String ret = "";
        ret += "School : " + name;
        return ret;
    }
}

Run StudentDriver (1)
C:\Users\lmei0002\jdk\openjdk-17.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021.3.2\lib\idea_rt.jar=566
School : School of IT

Process finished with exit code 0

1:26:18 / 1:59:20
```