

SOFTWARE CONSTRUCTION 2

LAB 2 (Galadima Ahmed 2350499, Desmond Nduma 2350342)

Preparations

BlueJ: Terminal Window - lab-classes

```
Student student1 = new Student("Ahme Galadima", "1988", "12345", 40);
```

Can only enter input while your programming is running

student1: Student

student1: Student

Part A (wind farm 1)

BlueJ: WindFarm

New Class...

Compile

windFarm1: WindFarm

BlueJ: Terminal Window - WindFarm

```
WindFarm windFarm1 = new WindFarm("London Array", "United Kingdom", 175, "Siemens SWT-3.6", 630.0, 2013);
```

Can only enter input while your programming is running

Part A(WindFarm 2)

The screenshot shows the BlueJ IDE interface for a project named "WindFarm". The class diagram at the top shows a `WindFarmTable` class with a dashed arrow pointing to a `WindFarm` class, indicating an association. Below the diagram, three object instances are listed: `windFarm1: WindFarm`, `windFarm2: WindFarm`, and `windFarm3: WindFarmT...`. The terminal window at the bottom displays the following code and output:

```
WindFarm windFarm1 = new WindFarm("Thanet", "United Kingdom", 100, "vestas V90-3MW", 300, 2010);
WindFarm windFarm2 = new WindFarm("Sheringham Shoal", "United Kingdom", 88, "Siemens 3.6-107", 315.0, 2012);
WindFarmTable windFarm3 = new WindFarmTable("my wind table");
windFarm3.addPowerStation(windFarm1);
windFarm3.addPowerStation(windFarm2);
windFarm3.getTotalPower()
    returned double 57720.0
windFarm3.printTable();
```

wind farm	Capacity	Country	year
Thanet	30000.0	United Kingdom	2010
Sheringham Shoal	27720.0	United Kingdom	2012

Can only enter input while your programming is running

Part B(PowerPlant 1)

The screenshot shows the BlueJ IDE interface for a project named "nuclear-power-plant". The class diagram at the top shows a single class `PowerPlant`. Below the diagram, one object instance is listed: `powerPla1: PowerPlant`. The terminal window at the bottom displays the following code and output:

```
PowerPlant powerPla1 = new PowerPlant("Barakah", "UAE", 5300.0, 2018, 4);
```

Creating object... Done.

Can only enter input while your programming is running

Part B (powerplant 2 Table)

BlueJ: nuclear-power-plant

New Class...
→
Compile

PowerPlant
PowerPlantTable

powerPla1: PowerPlant
powerPla2: PowerPlant
powerPla3: PowerPlant...

```
|Shimane|1|1373.0|2007|Japan|
-----
| Power Station | units | Net capacity under construction (MW)| Construction Start | Country |
-----
|Taishan|2|3320.0|2018|China|
-----
PowerPlant powerPla1 = new PowerPlant("Shimane", "Japan", 1373, 2007, 1);
PowerPlant powerPla2 = new PowerPlant("Taishan", "China", 3320.0, 2018, 2);
PowerPlantTable powerPla3 = new PowerPlantTable("your nuclear power plant");
powerPla3.addPowerStation(powerPla1);
powerPla3.addPowerStation(powerPla2);
powerPla3.getTotalPower()
    returned double 4693.0
powerPla3.printTable();
| Power Station | units | Net capacity under construction (MW)| Construction Start | Country |
-----
|Shimane        | 1 |      1373.0|                2007|                Japan|
-----
| Power Station | units | Net capacity under construction (MW)| Construction Start | Country |
-----
|Taishan        | 2 |      3320.0|                2018|                China|
-----
```