



World of Robots

Master 1 Génie Physiologique et Informatique

Del 3-2 : Group synthesis

```
document.getElementById(div).innerHTML += "Error";
else if (i==2)
{
    var atpos=inputs[1].indexOf("@");
    var dotpos=inputs[1].lastIndexOf(".");
    if (atpos<1 || dotpos<atpos+1 || dotpos==inputs[1].length-1)
        document.getElementById('errmail').innerHTML += "Error";
    else
        document.getElementById(div).innerHTML += "OK";
}
else if (i==5)
{
    var atpos=inputs[1].indexOf("@");
    var dotpos=inputs[1].lastIndexOf(".");
    if (atpos<1 || dotpos<atpos+1 || dotpos==inputs[1].length-1)
        document.getElementById('errmail').innerHTML += "Error";
    else
        document.getElementById(div).innerHTML += "OK";
}
```

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To move the turtle, we've created a turtle class with different methods that allow it to move, such as the turn method (it allows the turtle to turn), the move method (it allows the turtle to move) and the turtle tracking methods. Next, we went into an existing class and created a case with the various functions previously created in the "turtle" class.

The use of the various methods was made possible by the different relationships created between each class. These relationships were new because the classes we were manipulating were not linked to other classes.

We also learned how to use modulo. Here, when the direction value reaches 4, it returns to zero.

```
public void turn(){  
    direction= (direction+1) %4;  
}
```

The classes (CanvasTurtle and CanvasRobot) do not work the same way because CanvasTurtle is not a real class, so we don't need to instantiate objects. Drawing the turtle is made by a static function : the consequence is that we cannot have more than one turtle on the screen at the same time.

On the opposite, CanvasRobot is a real class, which allows instantiating several objects (turtle graphical representation, not really turtles), which are displayed on the same canvas.

Consequently, while the turtle can call a function to show itself at each move, the robots need to know their graphical representation as an object. They must be linked to them. That way, we created an attribute called canvasRobot that is instantiated in the constructor. Consequently, the constructors also needed to be changed. Then you need to call the printRobot() method everywhere it is necessary (every time the robot moves, in fact).

We can choose the color of the body of the robot and manage it in the robot with a color attribute, and a setter and a getter. The color is also added in the constructors.

The trace that follows the turtle made us realise that the different parameters vary according to the orientation of the object, which complicates the code we had imagined.