World of Robots

Master 1 Génie Physiologique et Informatique

Del 2-2bis : Description of the Robot class (Groupwork)

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- Class name: **Robot**

  a. Short description: **A robot with a name and a position x and a position y. The latter can change its name and move in a 2D world made of squares.**

- Class attributes:

1. Attribute name: **Name**
   a. Type: **String**
   b. Short description: **The name of this robot**
2. Attribute name: **xPosition**
   a. Type: **int**
   b. Short description: **The robot's position on the X axis**
3. Attribute name: **yPosition**
   a. Type: **int**
   b. Short description: **The robot's position on the Y axis**
4. Attribute name: **MIN_NAME_LENGTH**
   a. Type: **int**
   b. Short description: **minimum name length (here is 3)**
5. Attribute name: **MIN_POSITION**
   a. Type: **int**
   b. Short description: **The robot cannot go below the value of -5 on the x and y axes.**
6. Attribute name: **MAX_POSITION**
   a. Type: **int**
   b. Short description: **The robot cannot go above the value of 5 on the x and y axes. These two attributes represent a limited movement area for the robot.**
7. Attribute name: **numberOfUnnamedRobots**
   a. Type: **int**
   b. Short description: **To give a number at a robot when he doesn't have a name.**

- Class methods:

1. Method name: **getName**
    a. Category: **Getter**
    b. Signature: **public String getName()**
    c. Short description: **Returns the name of the robot**
2. Method name: **setName**
    a. Category: **Setter**
    b. Signature: **public void setNom(String nom)**
    c. Short description: **Check that the size of the name is correct and change the name of the robot.**
3. Method name: **getXPosition**
    a. Category: **Getter**
    b. Signature: **public int getXPosition()**
    c. Short description: **Returns the x position of the robot**
4. Method name: **setXPosition**
    a. Category: **Setter**
    b. Signature: **public void setXPosition(int xPosition)**
    c. Short description: **Checks the range of the X position and if it is correct, it changes the x position of the robot**
5. Method name: **getYPosition**
    a. Category: **Getter**
    b. Signature: **public int getYPosition()**
    c. Short description: **Returns the y position of the robot**
6. Method name: **setYPosition**
    a. Category: **Setter**
    b. Signature: **public void setYPosition(int yPosition)**
    c. Short description: **Checks the range of the Y position and if it is correct, it changes the y position of the robot.**

7. Method name: **getNumberOfUnnamedRobots**
    a. Category: **Getter**
    b. Signature: **public static int getNumberOfUnnamedRobots()**
    c. Short description: **Returns the number of unnamed robots.**