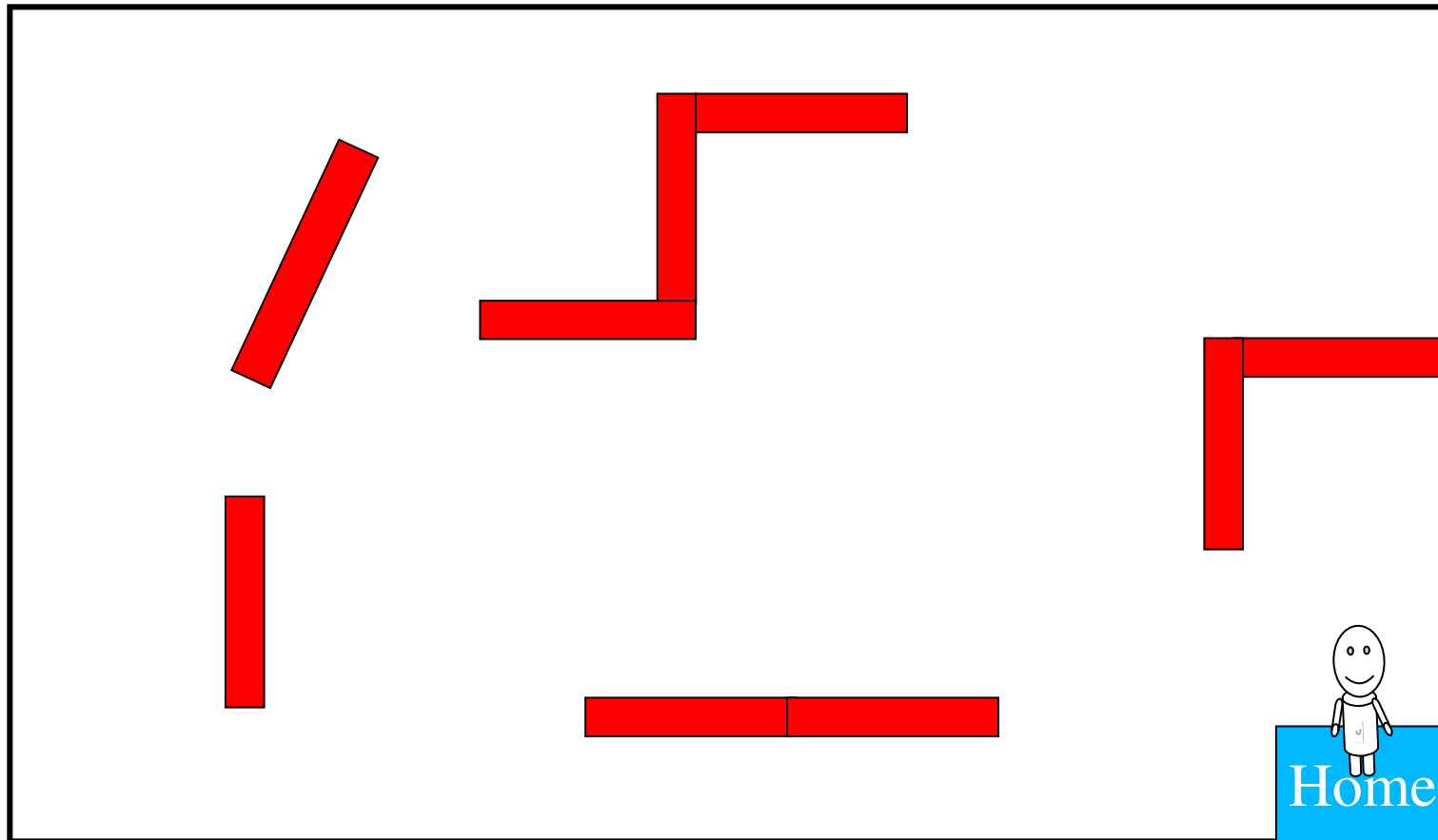


Explorer Project (Lego Mindstorms)

□ Minimal requirements for **Explorer**.

- Has a *home* where he starts exploring a closed place.
- Knows the size of the field but does not know where the elements are. Elements are walls, houses, gateways.
- Is able to learn the elements of the field (where they are).
- Is able to learn where he already was on the field.
- Can communicate with a software agent via Bluetooth. The software agent is responsible to learn the structure of the field. The agent can also be used for computation, storage of gathered data and implementation of strategic behaviour.

Sample Field



Lego Mindstorms Equipment

□ Programming Environment: Java (Jelos)



□ Servo Motors: Includes a built-in rotation sensor that measures speed and distance

□ Touch Sensors: It can detect single or multiple button presses

□ Light Sensors: Enables your robot to distinguish between light and dark

□ Sound Sensors: for measuring noise levels in both dB and dBA

□ Ultrasonic sensors: helps your NXT robot judge distances and "see" where objects are

□ Bluetooth

□ Colour Sensors: can distinguish some colours (see spec.)

□ Compass: is able to measure the earth's magnetic field and calculates a magnetic heading to tell which direction your robot is facing

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