Intro to Robotics

If I told you to run in front of a car would you do it? No, you would decide that my instruction was bad and ignore it. What would happen if I programmed a robot to do the same thing? A big difference between a robot and a human is that a human can reject instructions and make its own decisions. A robot only does exactly what it is told to do, every time. This can be good (e.g. quality control in a manufacturing line) and bad (if something goes wrong the robot can't change its action unless it has been programmed to). MagneBot did not automatically pick up the rubbish from the floor because it had not been programmed to do so!

1. Let's flick back to the end of the situation video. Why didn't the robotic arm just automatically pick up the rubbish bags for us? Discuss with your group, then **write your answer in your learning journal.**

2. What are the pros and cons of sorting rubbish using robotics compared to humans? Discuss with your group, then **list at least two pros and two cons in your learning journals**. Things to consider include:
   - I. **Cost** (humans have to be paid, robots need to be bought and maintained: more upfront cost but less cost over time)
   - II. **Size** (robots and humans take up different sizes, depending on the job robots might take up more or less space than a comparable human)
   - III. **Risk** (the cost of a human life is much more than a robot, so robots might be better for high-risk scenarios)
   - IV. **Accuracy & precision** (would a robot or a human be more accurate? why?)
   - V. **Consistency** (get a student to draw 5 circles. Drawing five consistent circles is a difficult task for humans but trivial for robots)
   - VI. **Willingness to do repetitive tasks** (robots will do whatever you tell them, no questions asked, compared to humans who get bored)