

## Review:

The design of a robot reflects the purpose of the robot.

Some elements in Robot Design are:

1. The type of locomotion
2. Style of end-effectors (hands)
3. Appearance

## Locomotion:

- Wheels – fast, cheap, energy efficient but limited by terrain
- Tracks – better than wheels on bumpy or soft terrain, but not as good as legs
- Legs – great for rough terrain but slow and inefficient
- Flying – ignores terrain and fast, but limits the weight the robot can carry
- Stationary – lets the work come to the robot which may limit application outside

## End-effectors (hands):

- Tools – customized tools to perform task quickly and efficiently
- Simple gripper – can grab most objects but lacks fine dexterity
- Human-like hands – can interact with humans easier and use human centric tools
- Suction cups/bag-like grippers – can pick up fragile items safely

## Appearance:

- Human-like is useful for tasks that require interaction with people or operating in the vicinity of humans
- Awkward looking robots are acceptable in industrial and manufacturing environments

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### Challenge Questions:

For these questions, think about what kind of design decisions would need to be made for a particular task. For example, a robot operating in Antarctica may have tracks to drive over the snow, while a robot used in your house would need an end-effector capable of opening doors.

Create **two different tasks** for a robot to solve.

	<b>Choose a task for your robot:</b> Examples (don't use these): collecting strawberries, excavating earth for basement, mowing lawn	<b>Choose your design elements:</b> * Locomotion * End-effectors * Appearance	<b>Explain</b> how those design elements help the robot to perform its job.
<b>Task 1</b>			
<b>Task 2</b>			

Explain why the two tasks result in different design elements and different robots.

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