

Remote Control with Backup Sounds

Time required: 60 minutes

Please read all the directions carefully before beginning the assignment.

- Comment your code as shown in the tutorials and other code examples.
- Follow all directions carefully and accurately.
- Think of the directions as minimum requirements.

Description

This program simulates the backup sound of a dump truck or payloador.

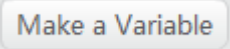
Understanding

Demonstrate understanding of:

variables

Knowledge Points

Define a Variable

Go to **Variables**. Click  to create a variable. Enter the name of the variable and create it. 4 blocks relating to it will appear automatically.

The first two blocks are used to define the variable value and the varied value of the variable. The other two blocks are rarely used.

Use of Variables

Variables are values that change when a program runs. A variable has a name and a value.

In mBlock, we can imagine that a variable is a box containing data. A program can store, change, and extract the data within the box. The name of the box is "variable name" and the data in the box is "variable value". When you create a variable, the box is empty. When you set a variable value, you fill the box with data. When you change the value, you take the data out and put in new data.

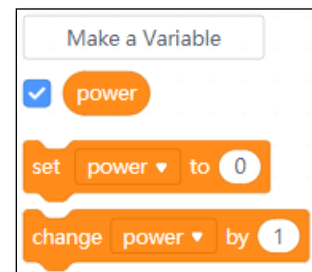
This assignment introduces variables. By creating a variable named power, you can change the power everywhere in the program by changing the set power block. If you set power to 60, everywhere that the power variable is used, is set to 60.

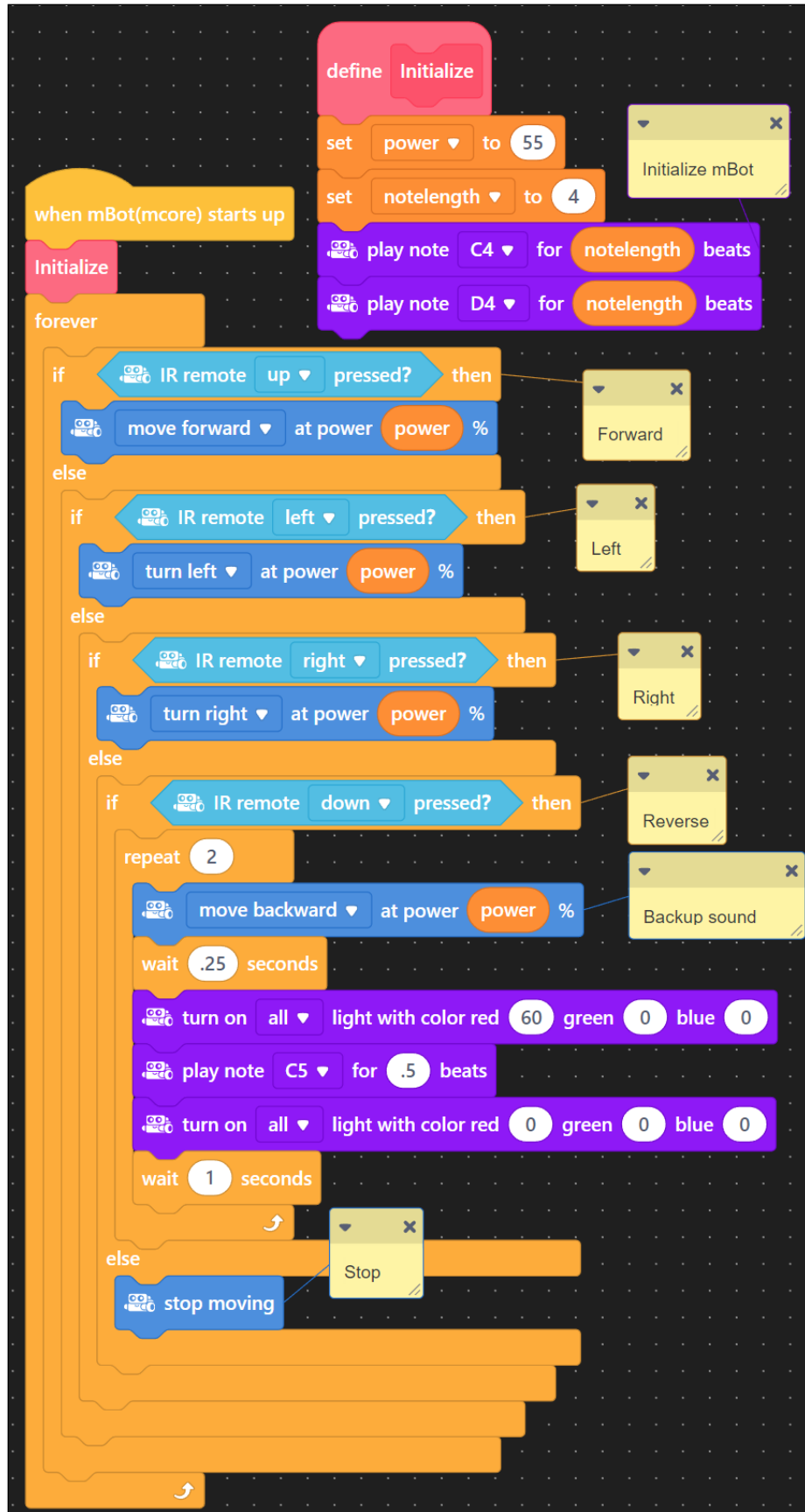
Requirements

- The robot will move in the direction of the arrow keys on the remote, then stop when the keys are released.

Tutorial Assignment

1. Start mBlock. Save the program as **Remote Control with Backup Sounds**.
2. Go to **Variables** → Click **Make a Variable**.
3. Name the variable **power**.
4. Drag the variable blocks as shown in the program.
5. Complete and test the program as pictured with the requirements listed.





Assignment

Start with your tutorial project and add the following.

1. Add a variation to the Backup Sound to your Remote Control with Backup Sounds program.
2. Add LED lights to indicate direction and movement.

Assignment Submission

- **All students** → Attach finished programs to the assignment in Blackboard.
- **In class assignment submission** → Demonstrate in person.
- **Online submission** → A link to a YouTube video recording showing the assignment placed in the submission area in BlackBoard.