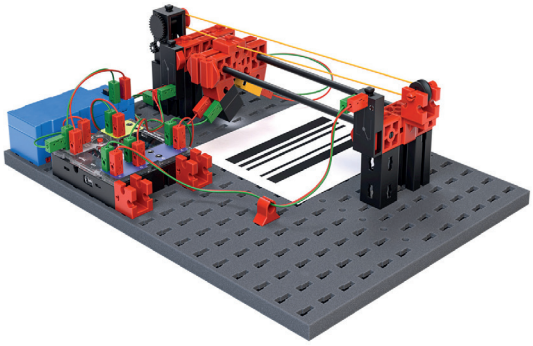
Model 9: Barcode reader
Objectives and classification

Overview
The reading of codes attached to objects plays a very important role in automation technology and logistics. As reading letters and Arabic numerals is complex and prone to errors, barcodes („bar codes“) became established decades ago - e.g. for books (ISBN) and food (EAN codes). Two-dimensional barcodes and QR codes are further developments of this coding.



The subject of this model is the encoding of numbers using barcodes and the programming of a simple mechanical barcode reader.

Topics
How does a barcode reader work? What is the meaning behind the bars of a barcode?

Learning objectives

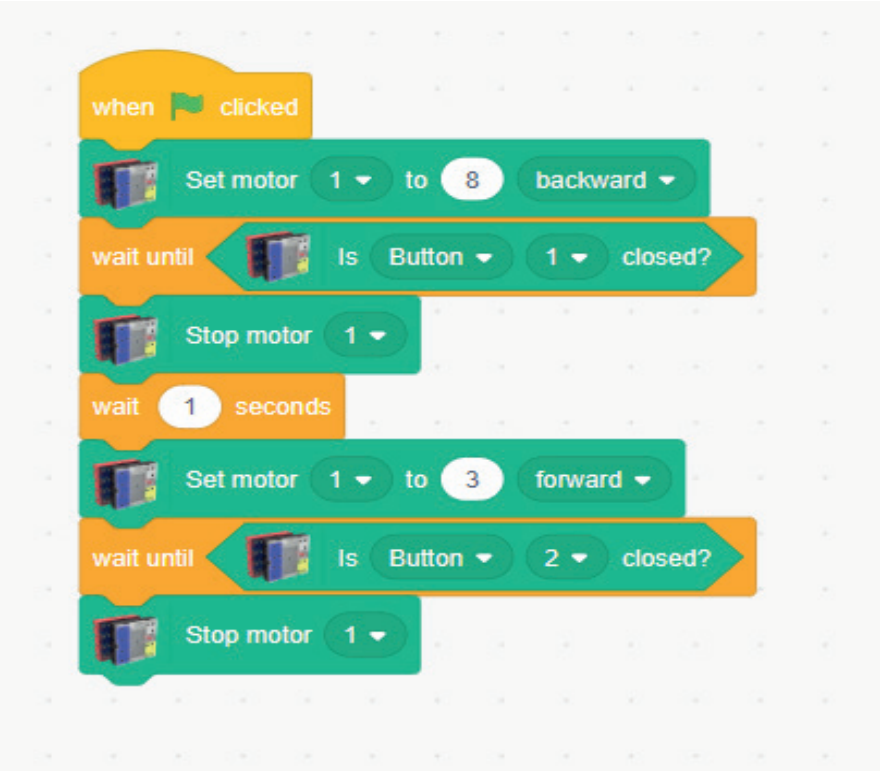
- Understanding the functional principle of a barcode reader
- Programming a simple barcode (counter)

Time required
It takes some time to set up the barcode reader. One lesson should be set aside for the introduction to the topic of the model, the construction of the reader and the first task in which the reader head is tested.
Solving the tasks „Move reading head“ and „Recognize lines“, including tests and troubleshooting, takes about another lesson.
The experimental tasks „Read number code“ and „Output number code“ require a third lesson.

Solutions and notes

Programming tasks Model 9: Barcode reader

Suggested solution Task Move read head:

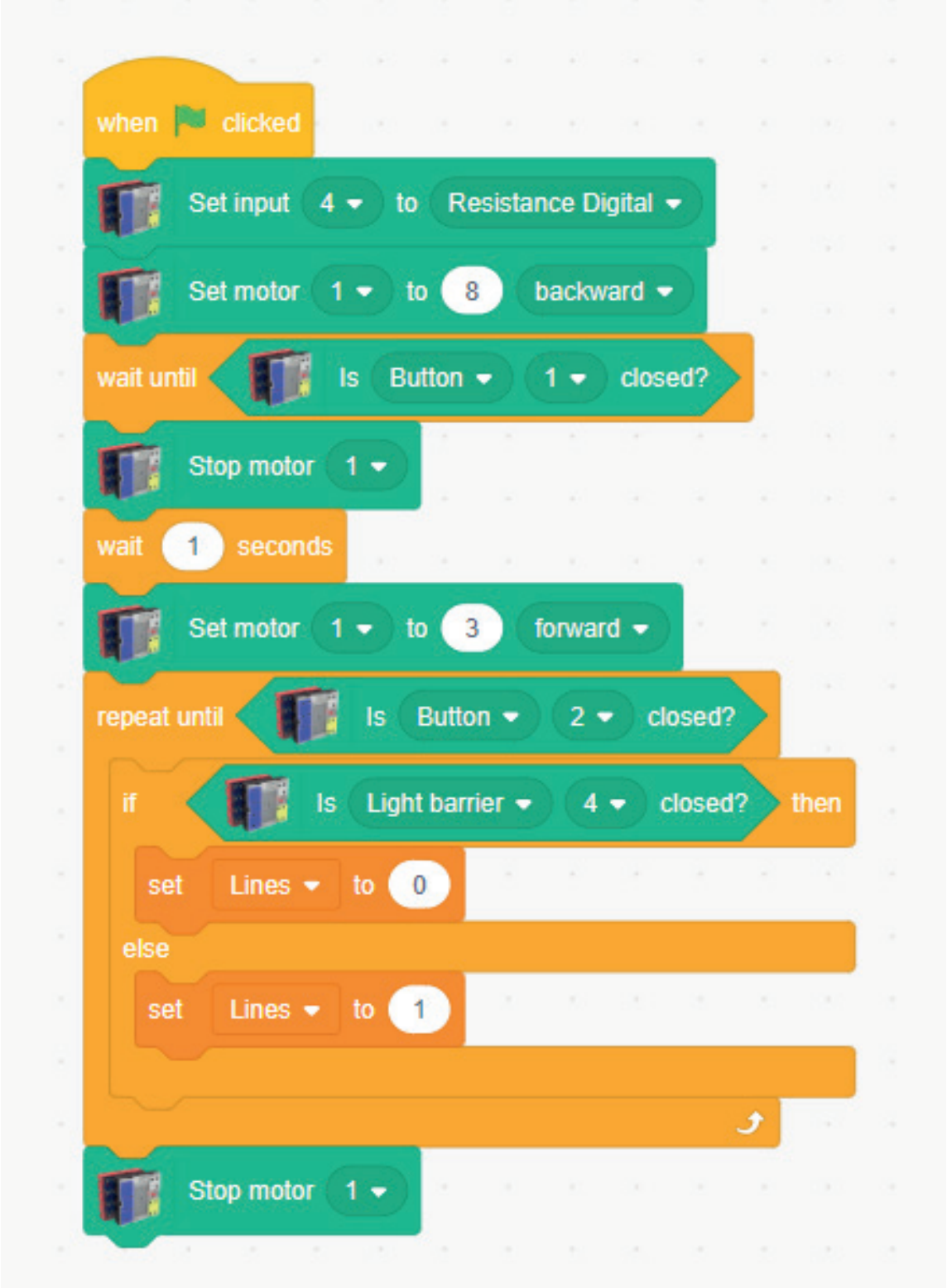


move reading head.sb3

Solutions and notes

Programming tasks Model 9: Barcode reader

Solution Recognize lines:

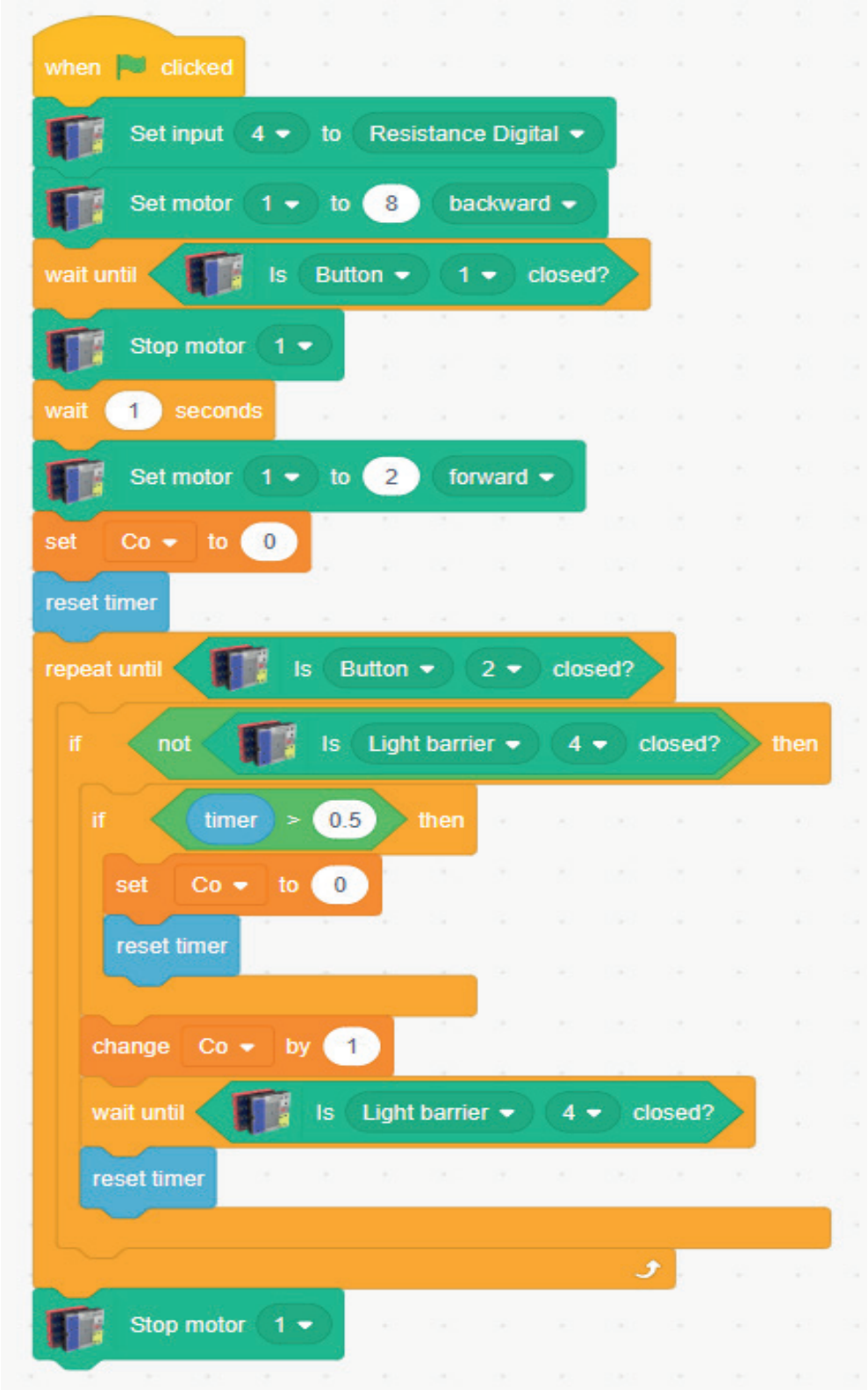


Recognize lines.sb3

Solutions and notes

Programming tasks Model 9: Barcode reader

Solution Read numerical code:



Read numerical code.sb3