

4 수레 밀기 로봇

Porter robot



이미지 출처

<http://www.influx.com.br> <http://ariellehanna.com/portfolio3.html>

수레

수레 밀기 로봇
Porter robot



-일본 기타 큐슈공항의 로봇짐꾼



손수레를 미는것과 끄는것 중 어느것이 힘이 더 적게 들까요?

당기는 방향



미는 방향



정답:당기는 방향

물체의 운동을 방해하는 마찰력이 작을수록 물체를 운동시키기가 쉽습니다

마찰력은 수직항력(수레가 물체를 밀어 올리는 힘 = 수레가 지면을 누르는 힘)에 비례합니다.

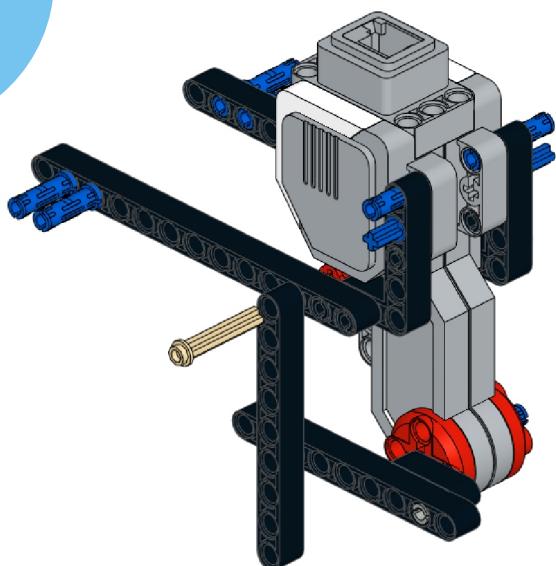
수레를 밀게 되면 지면을 누르는 연직 방향의 힘이 생겨 수직항력이 커지고, 수레를 끌면

수레의 위쪽으로 작용하는 힘이 생겨 수직항력이 작아지므로 끄는 쪽이 힘이 적게 듭니다.

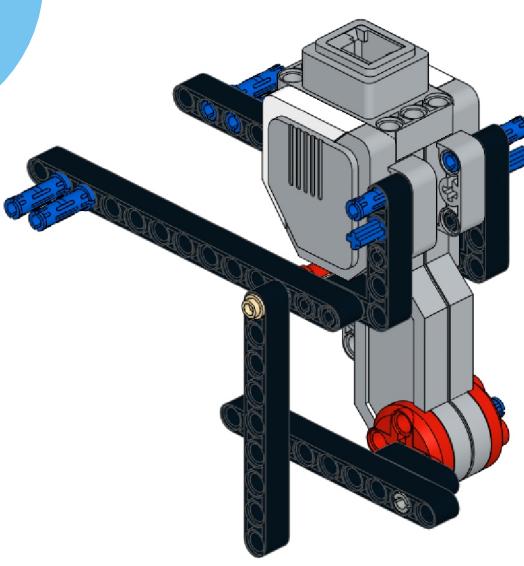
Instruction

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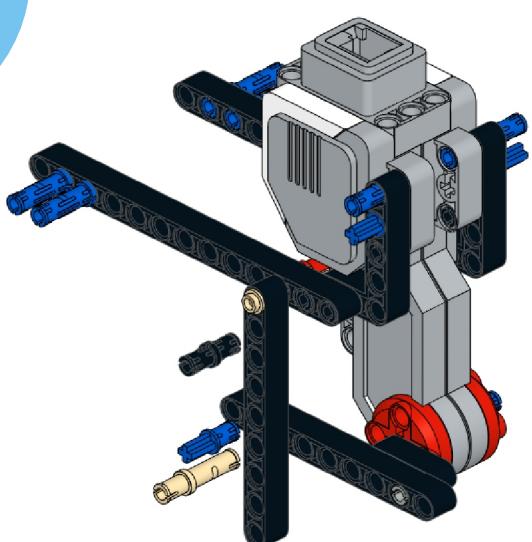
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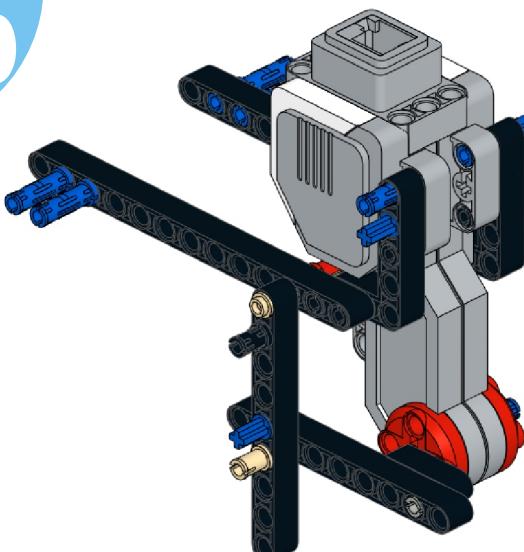
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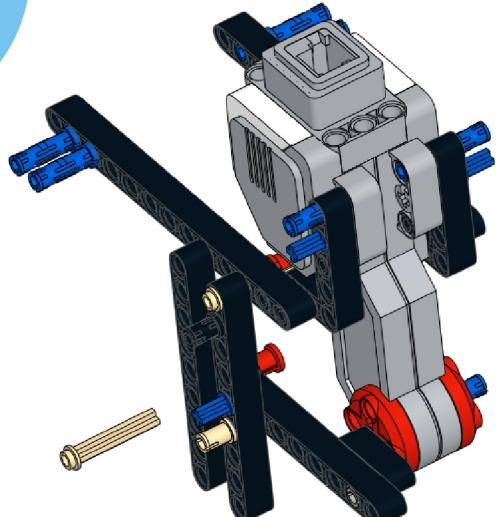
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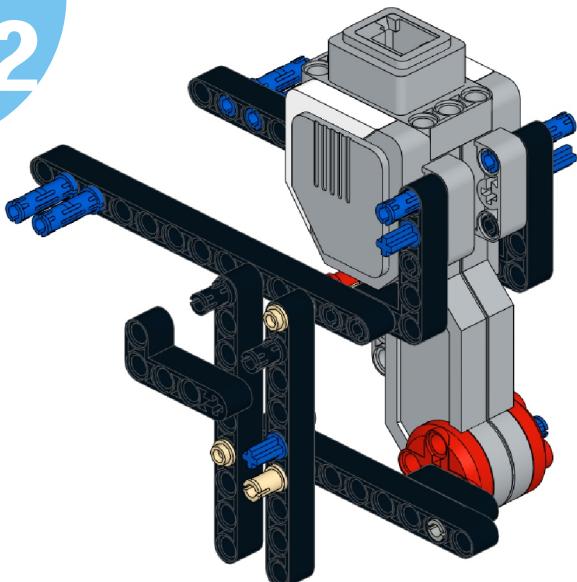
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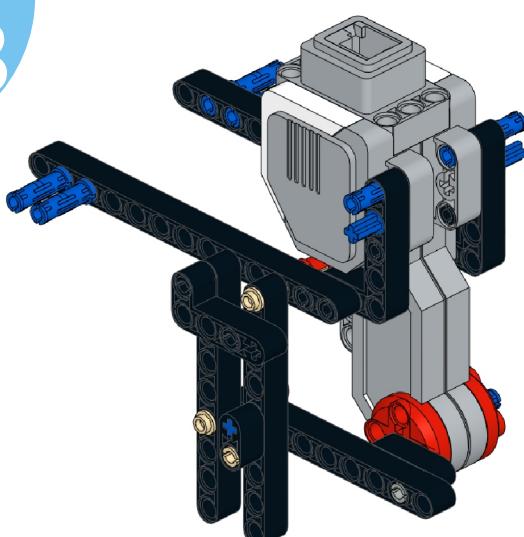
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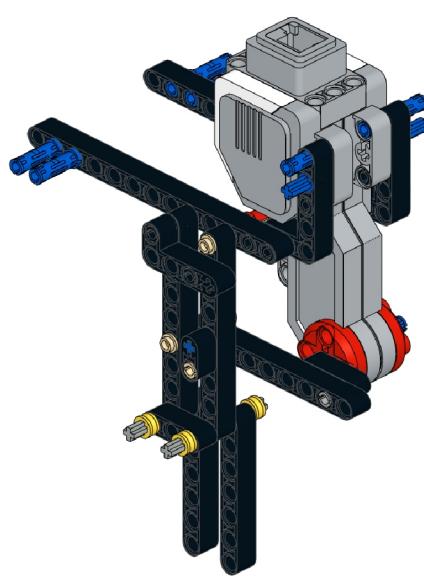
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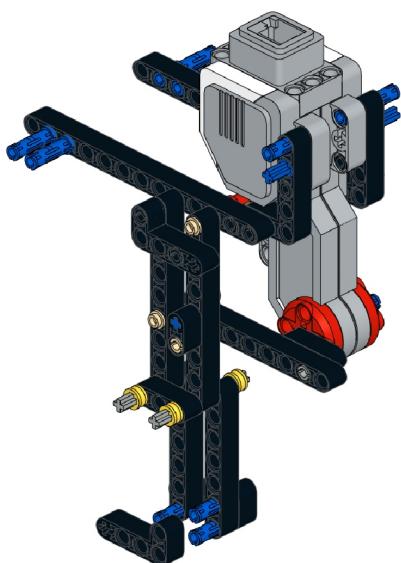
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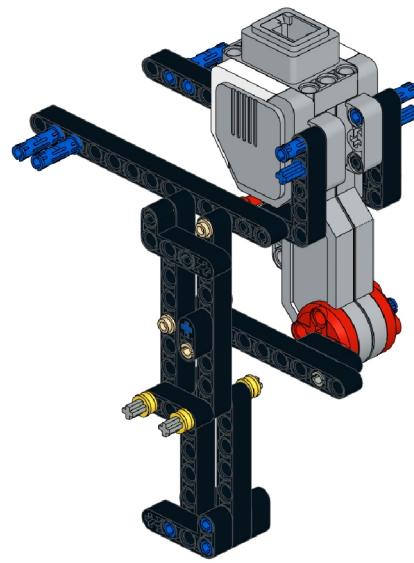
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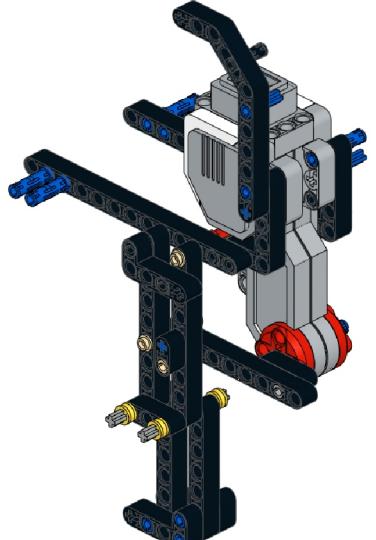
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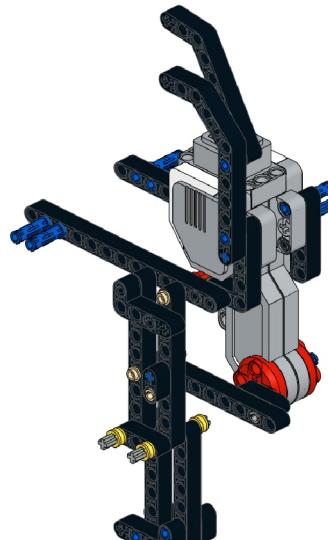
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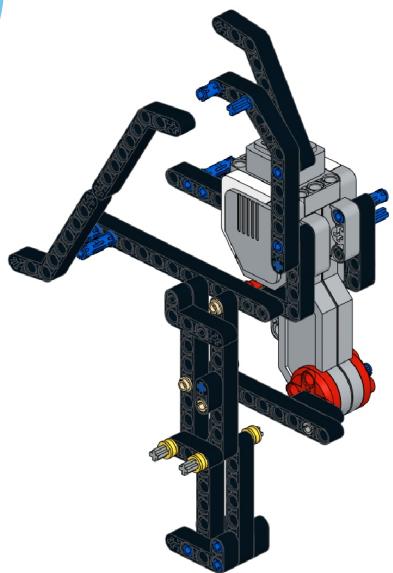
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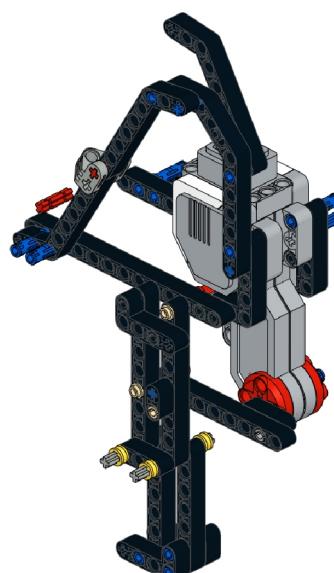
Instruction

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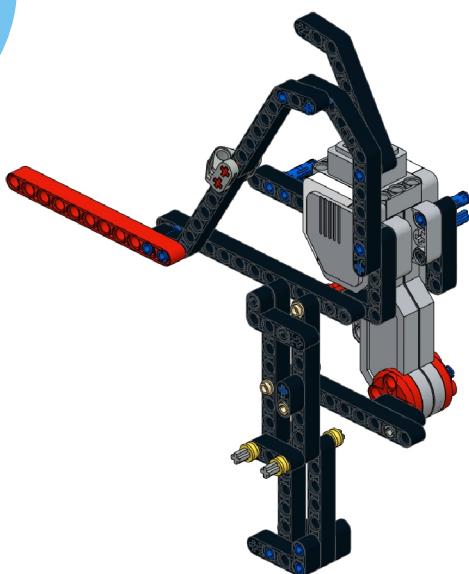
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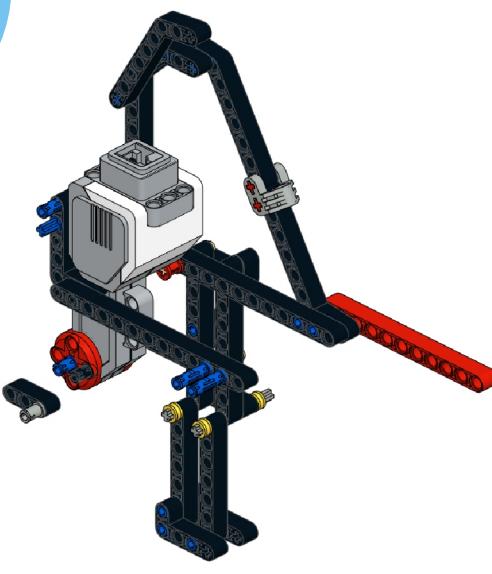
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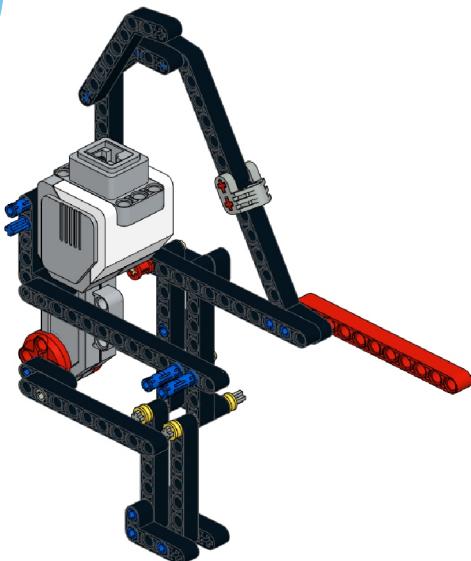
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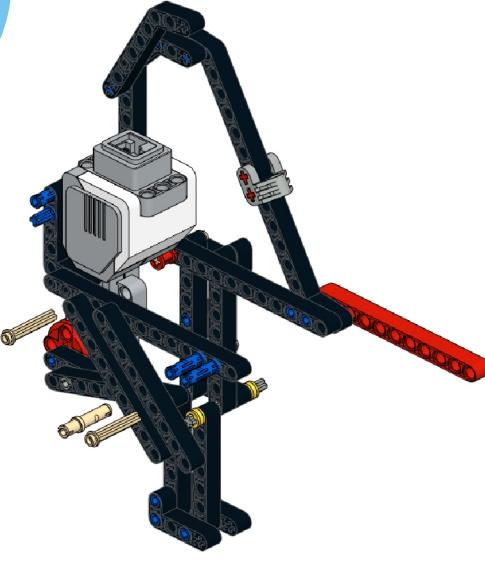
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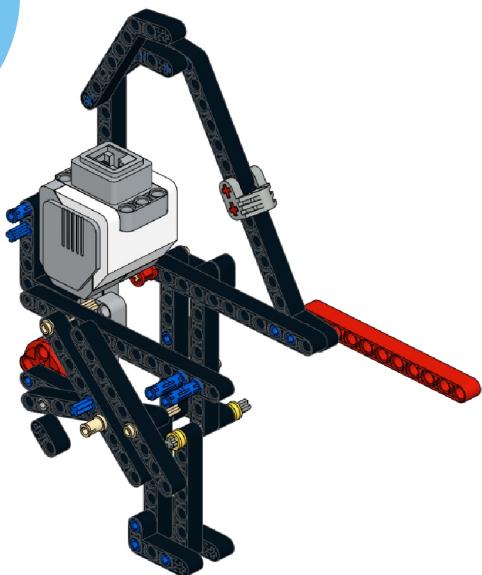
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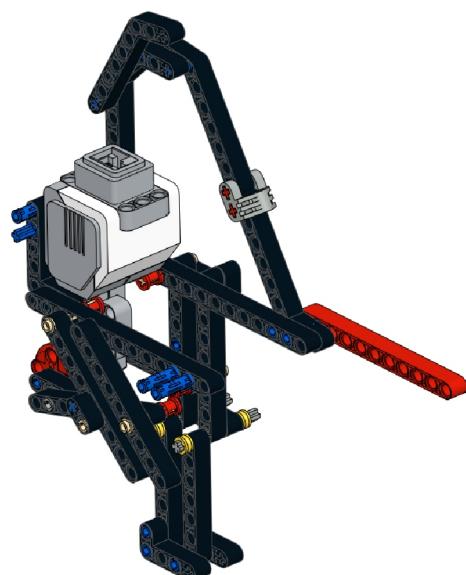
Instruction

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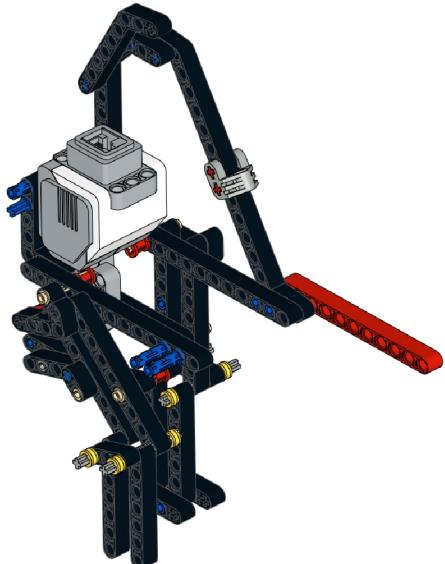
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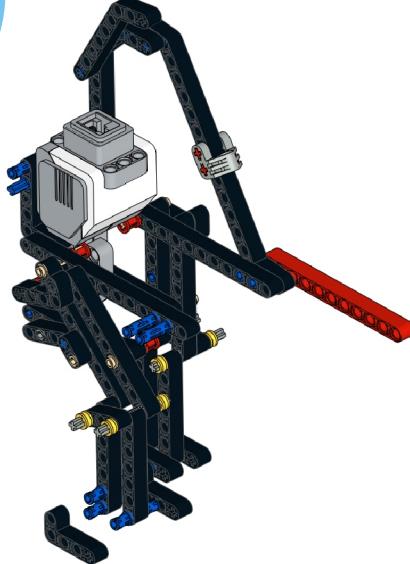
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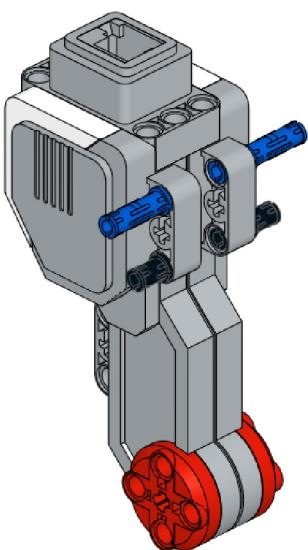
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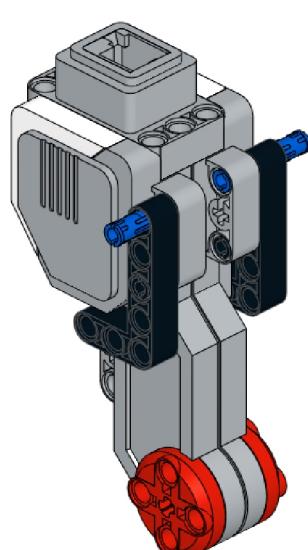
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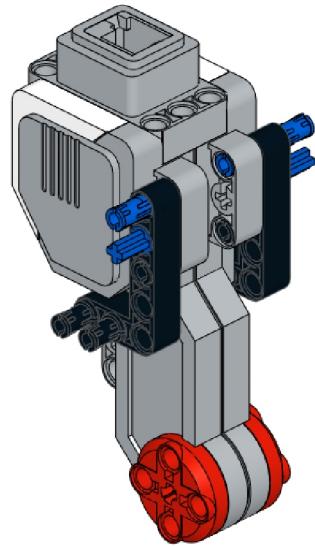
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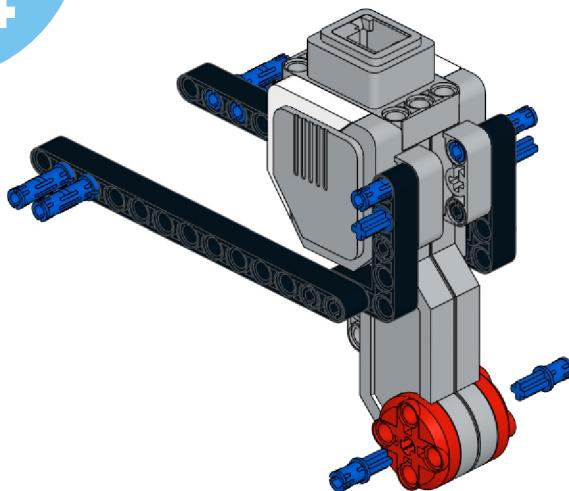
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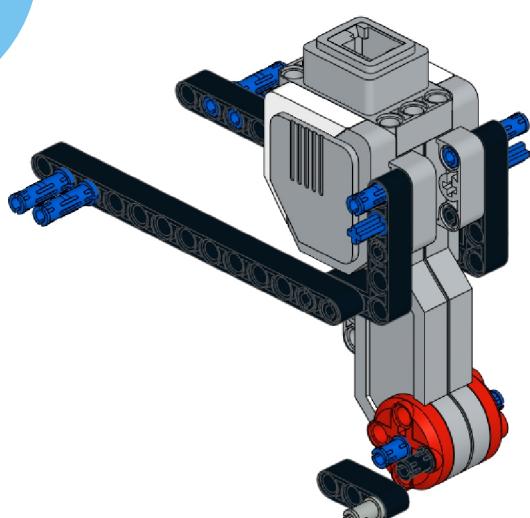
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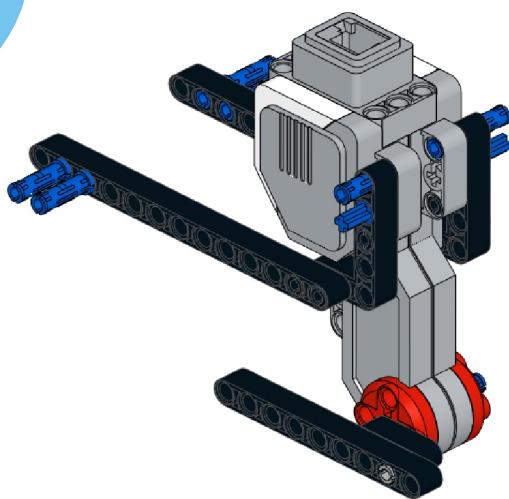
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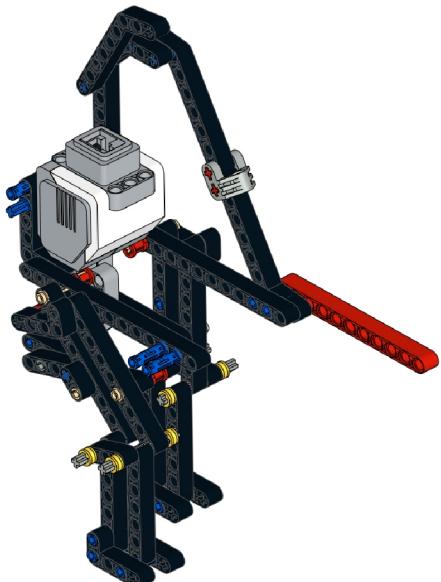
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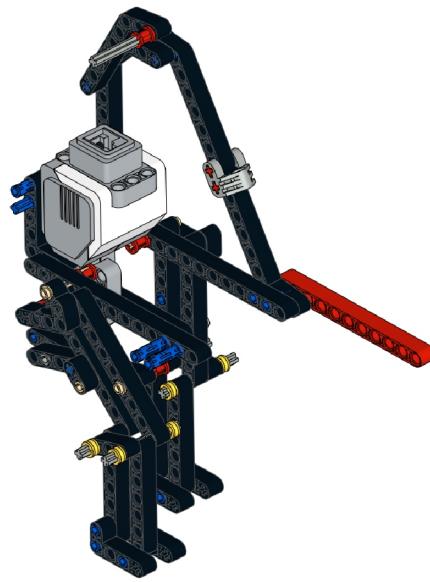
Instruction

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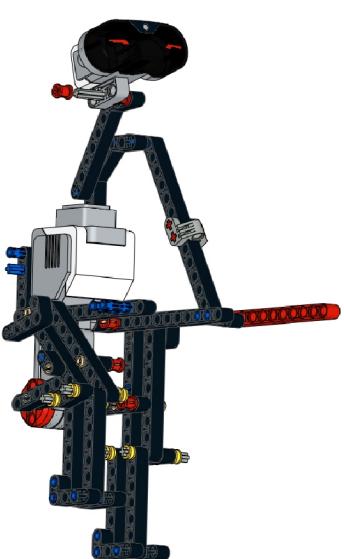
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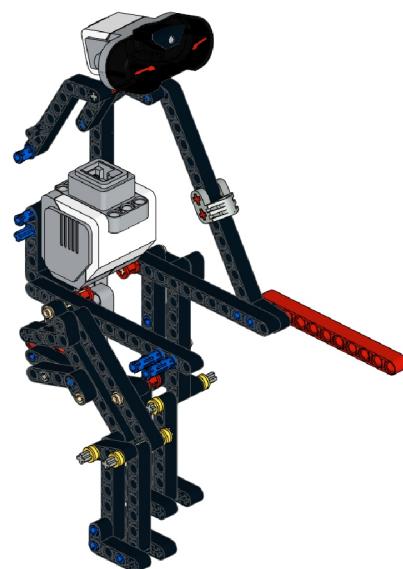
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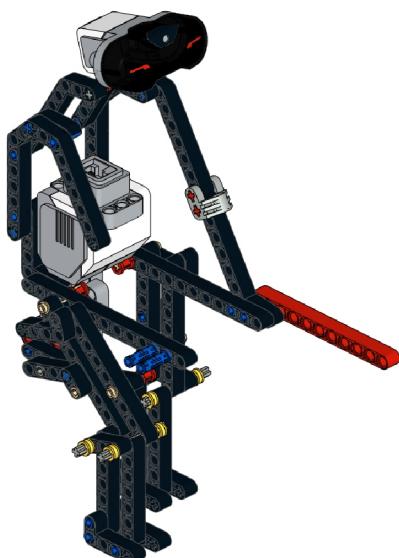
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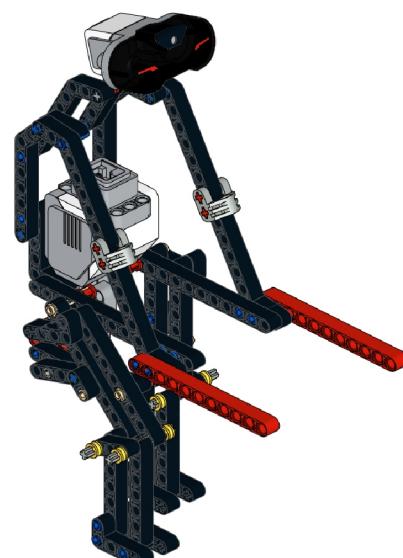
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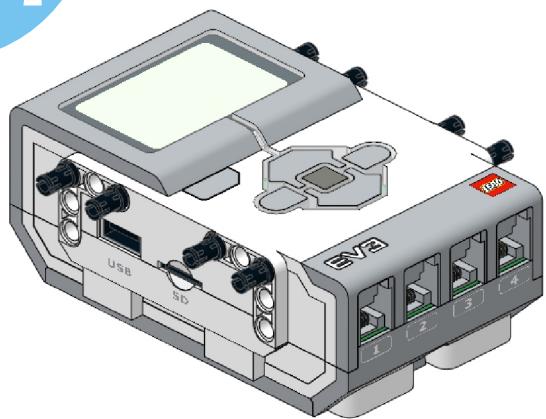
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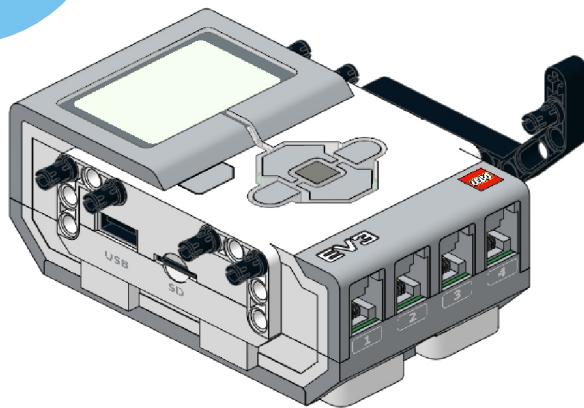
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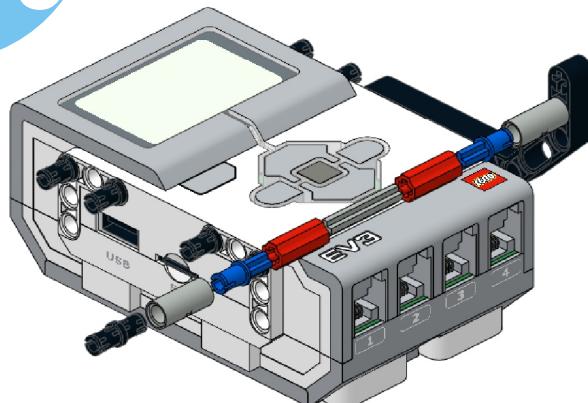
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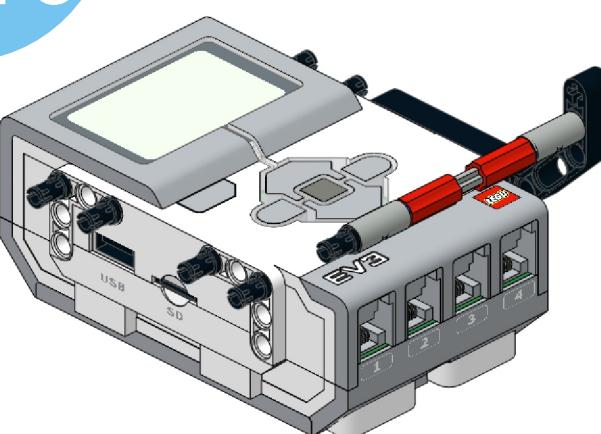
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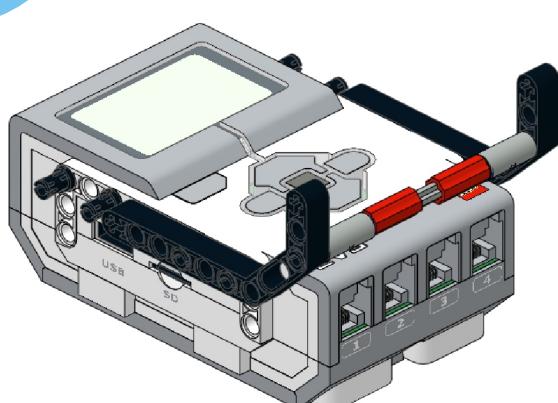
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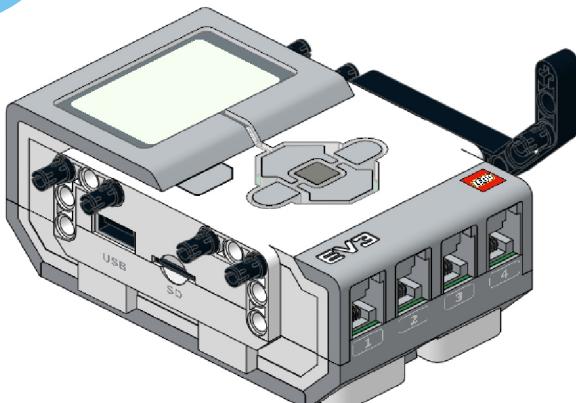
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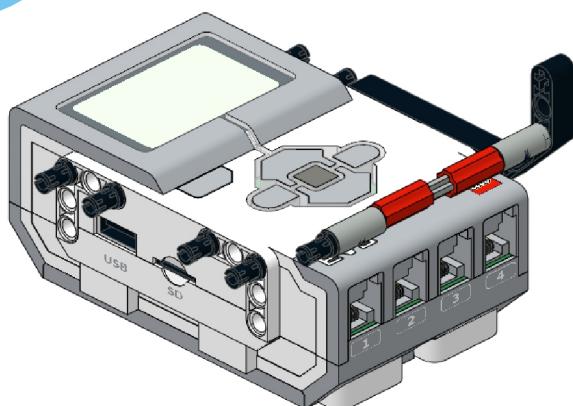
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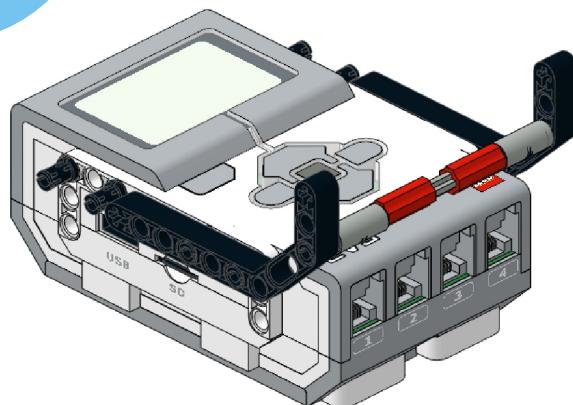
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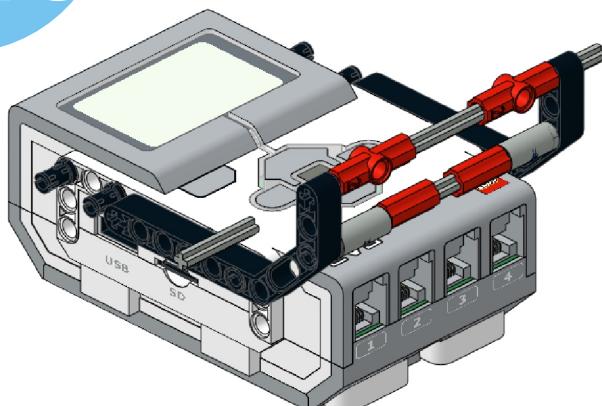
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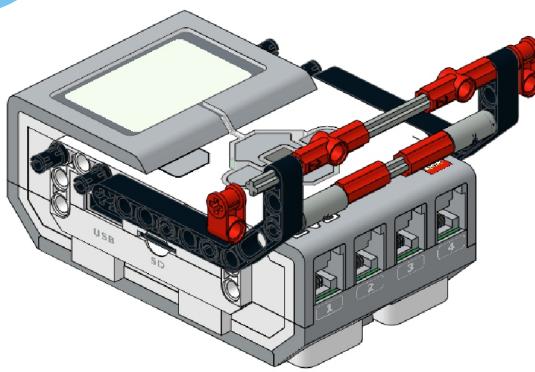
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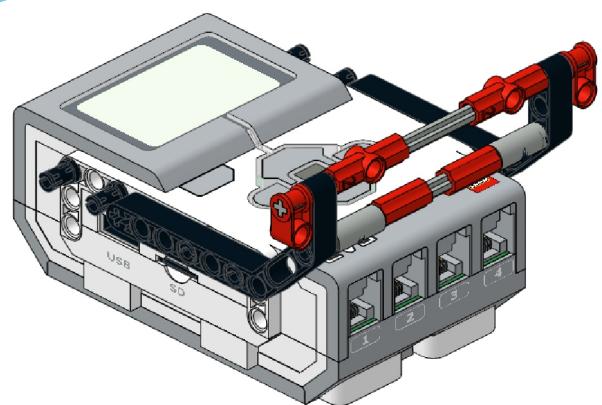
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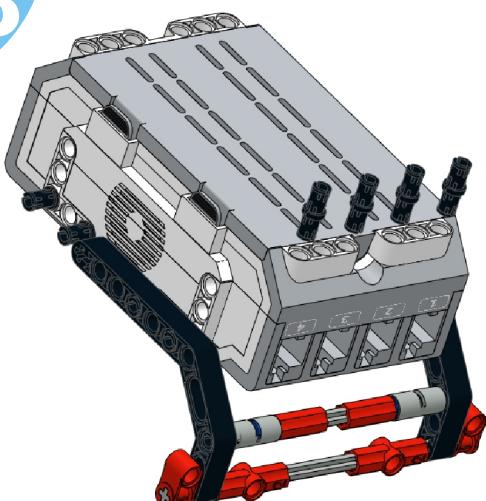
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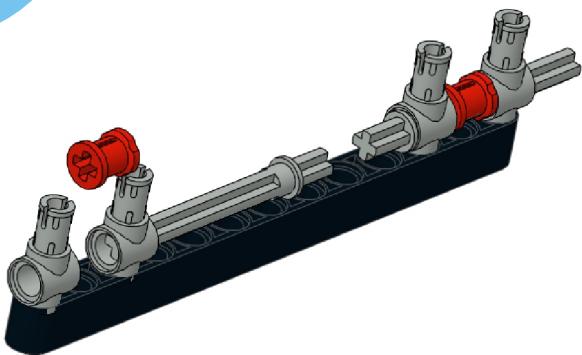
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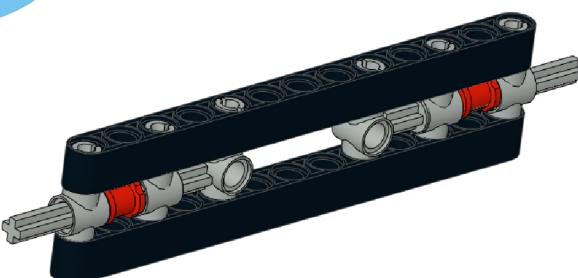
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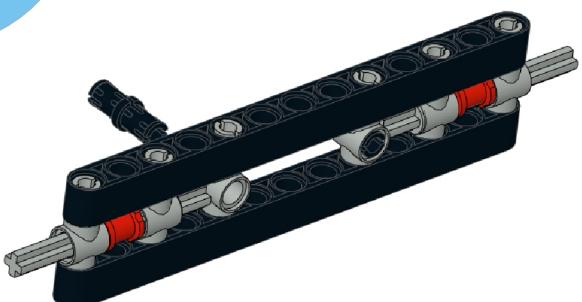
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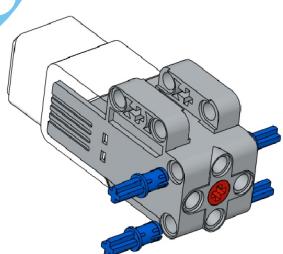
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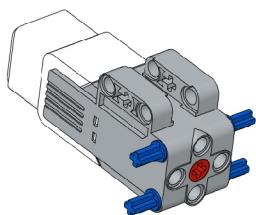
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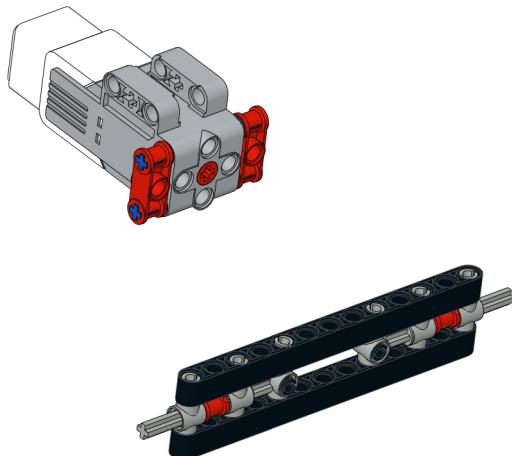
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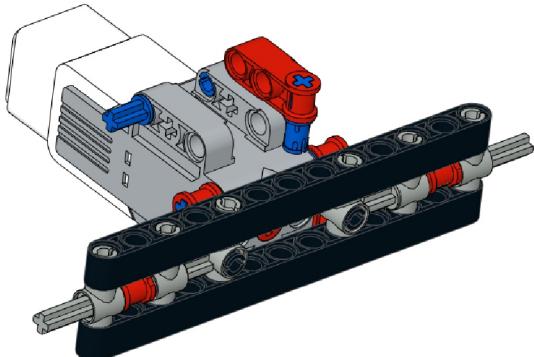
Instruction

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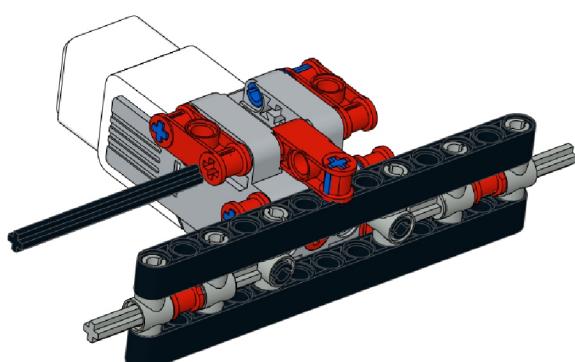
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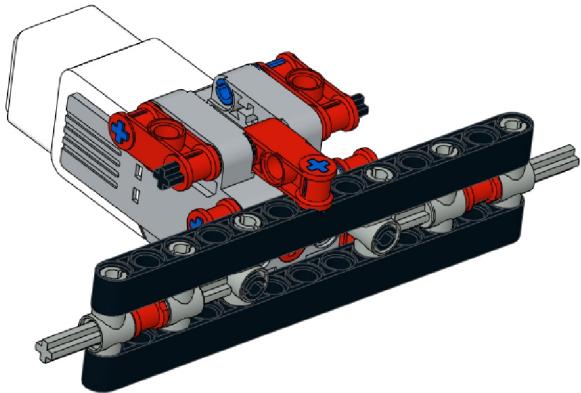
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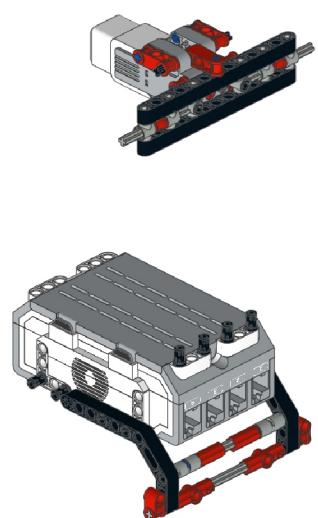
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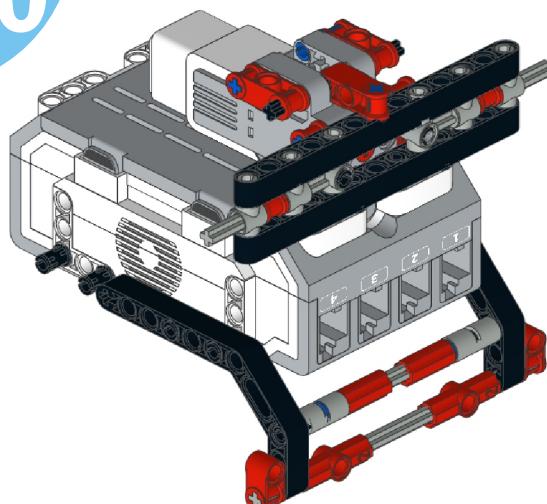
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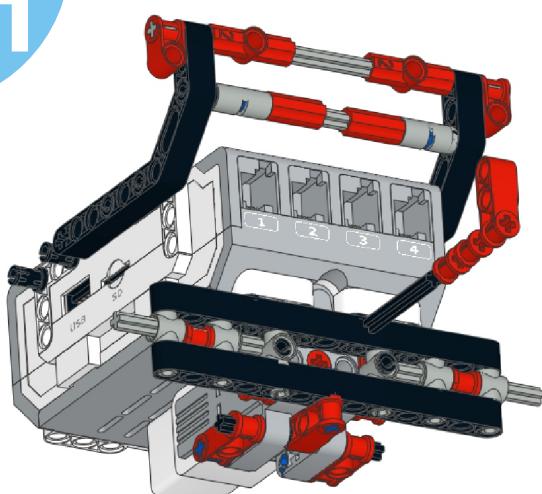
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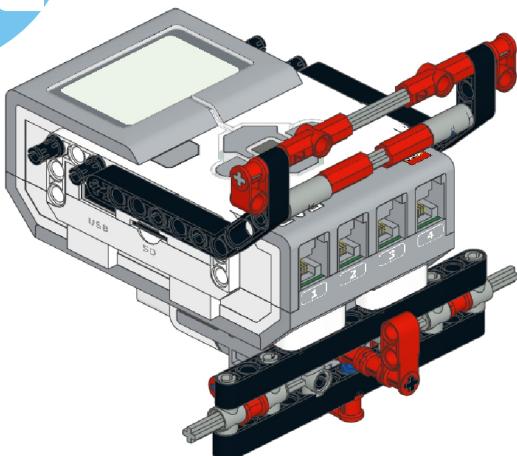
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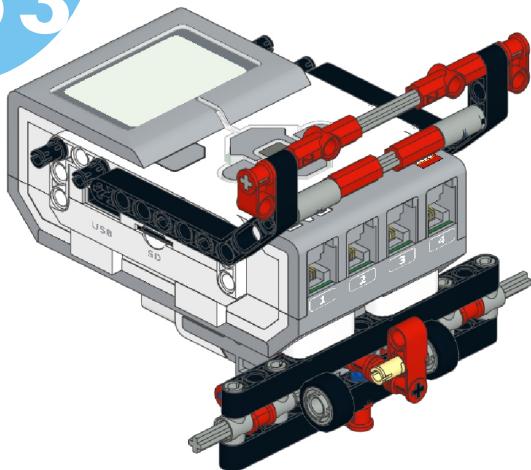
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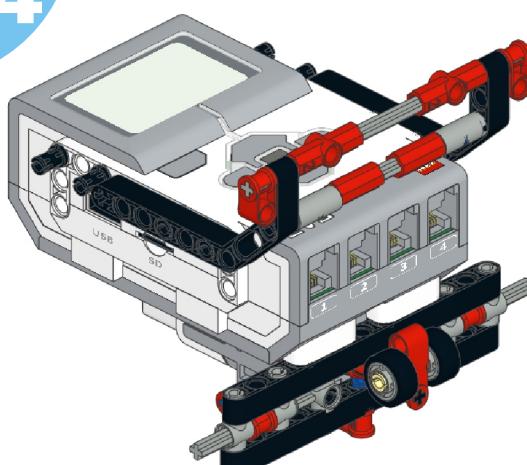
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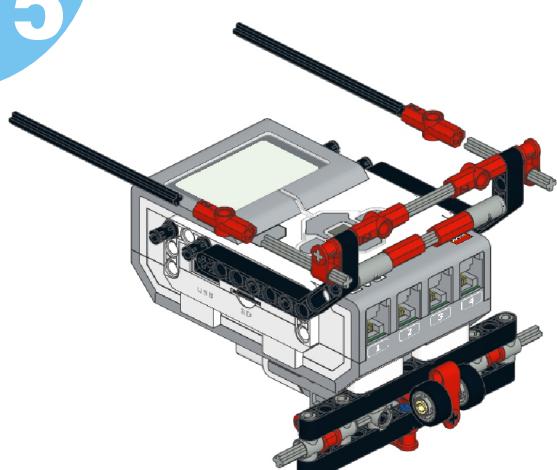
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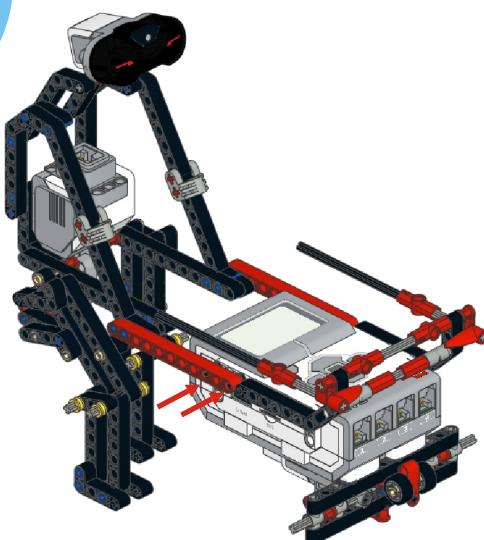
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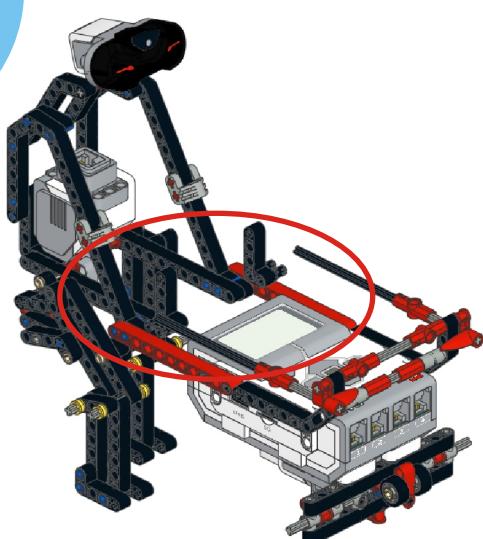
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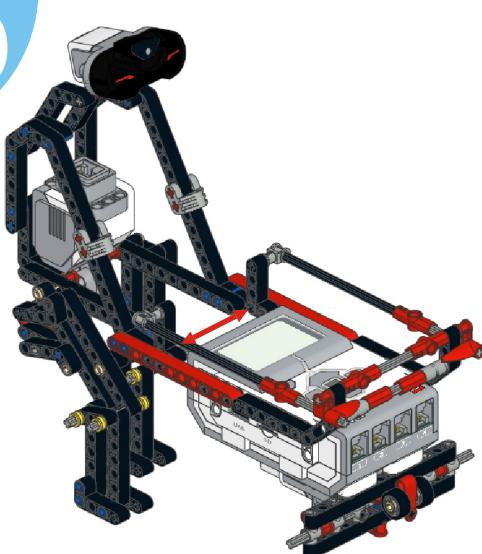
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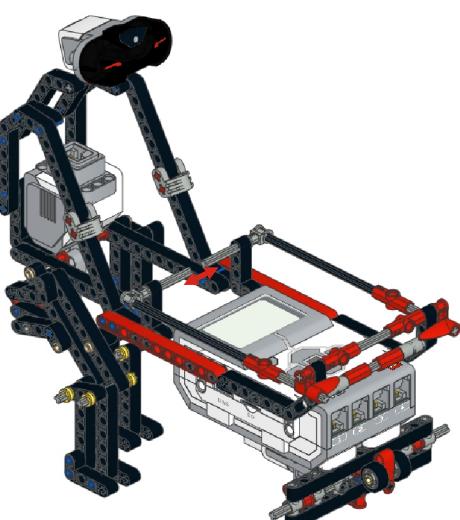
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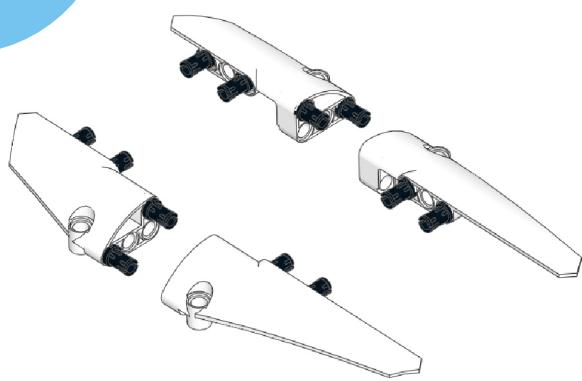
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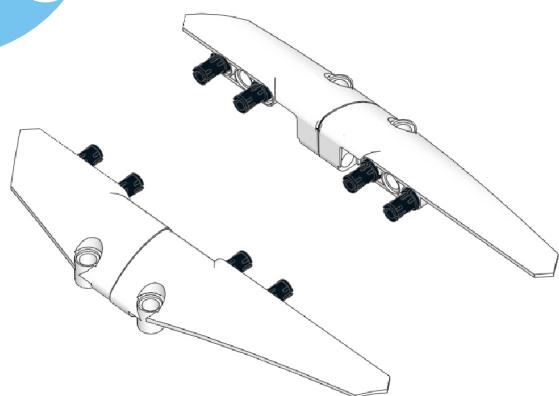
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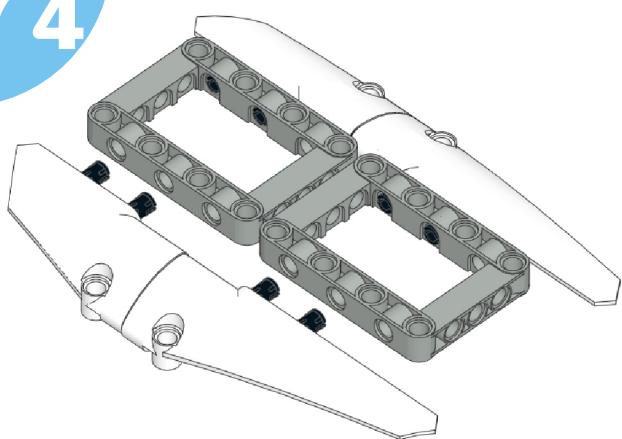
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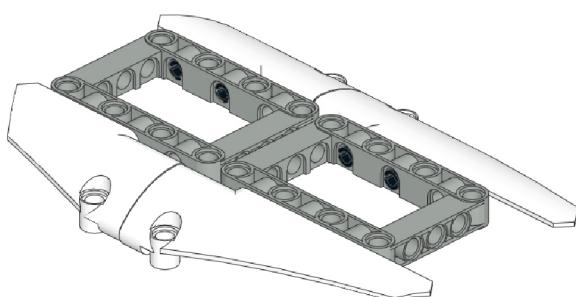
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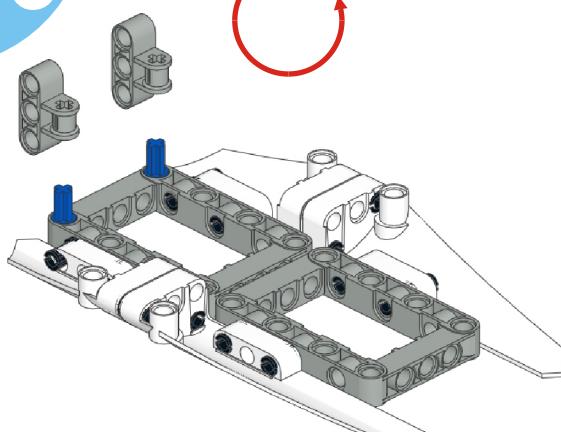
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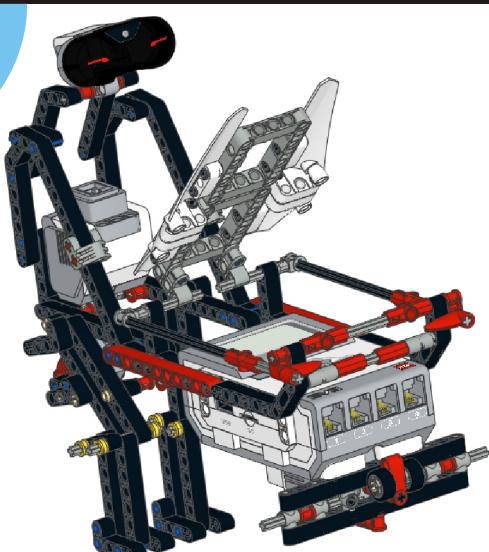
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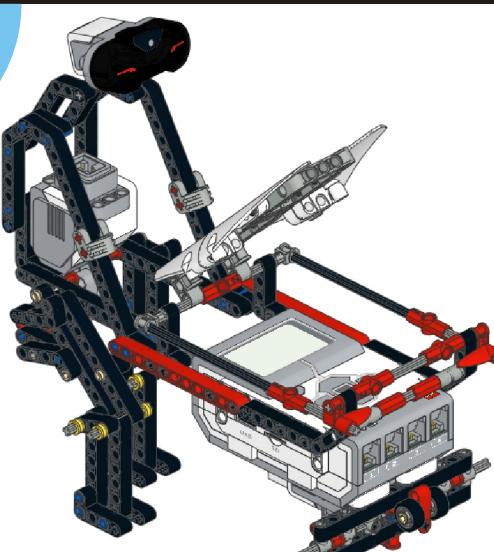
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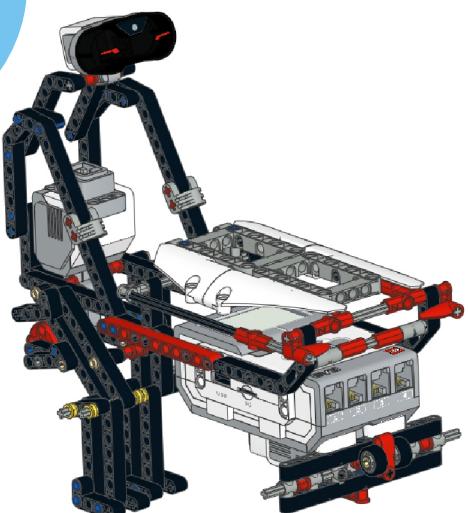
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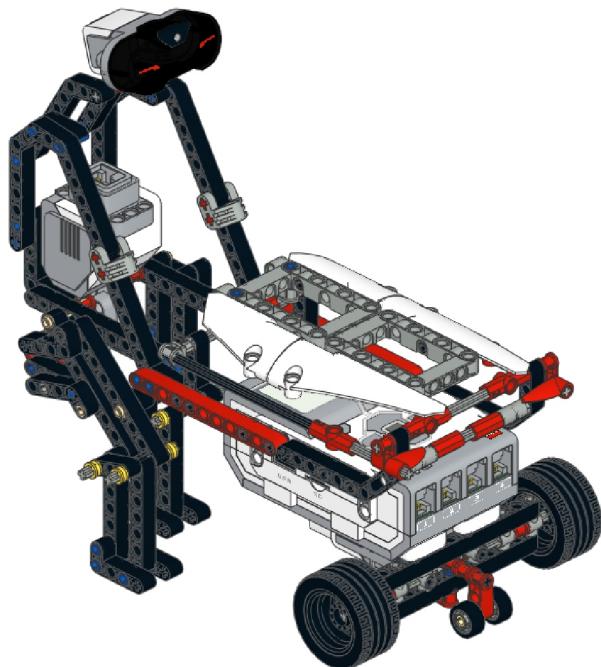
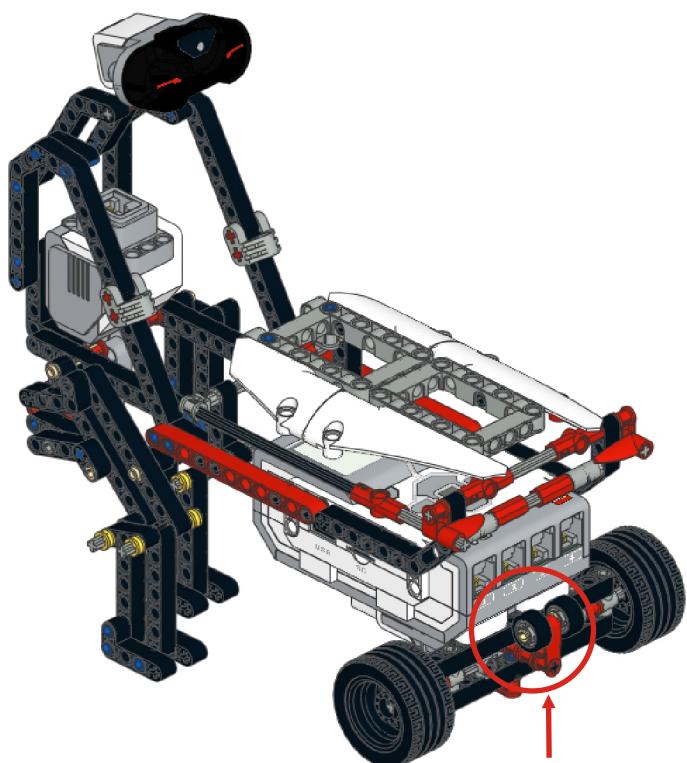
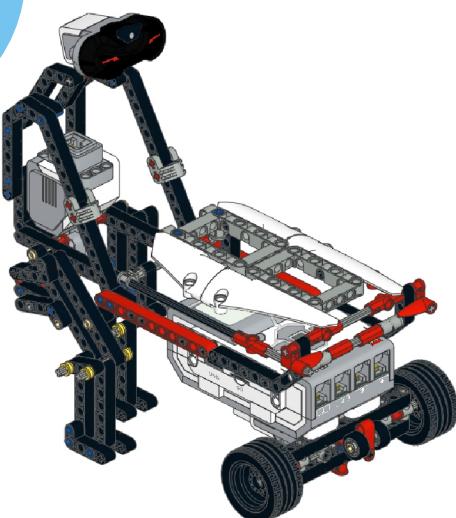
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수레 밀기 로봇
Porter robot

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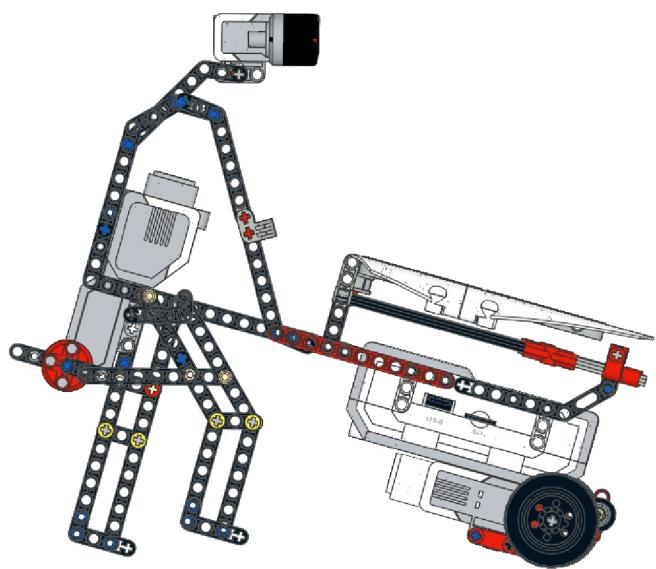


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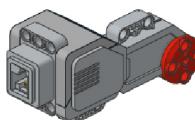
이 타이어는 회전하면서 수레의 방향을 전환시켜 줍니다.

Let's move

수레 밀기 로봇
Porter robot



적외선 센서: 4번 단자



서보모터: D 단자

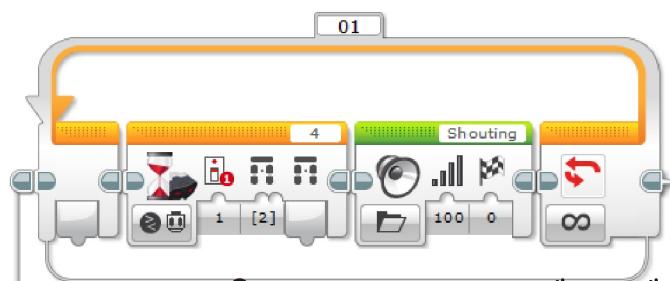


미디움모터: A 단자

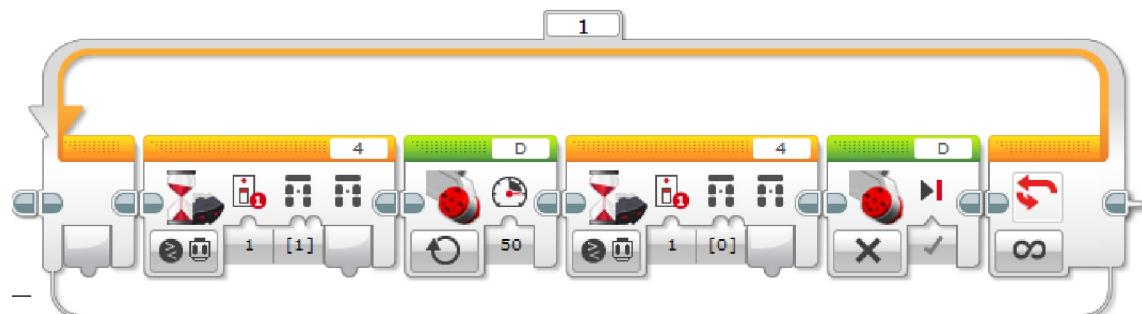
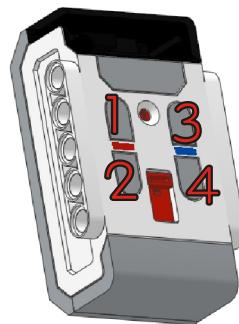


Let's programming

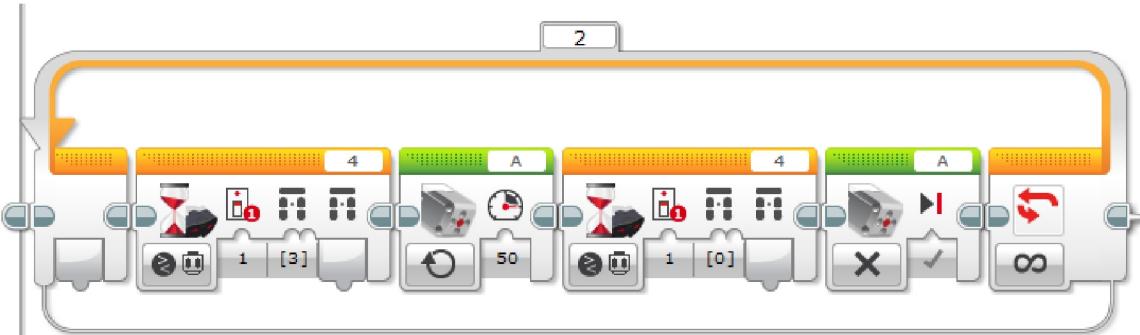
수레 밀기 로봇
Porter robot



2번을 누르면 소리치기 "Hey"

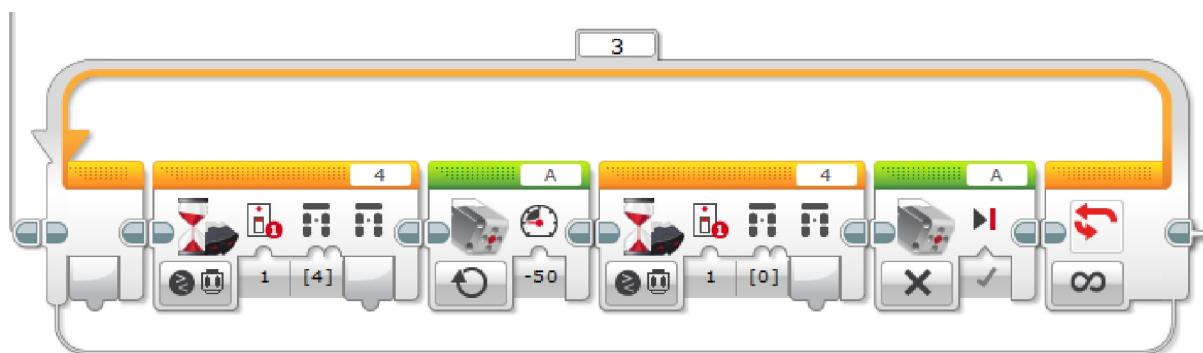


1번을 누르면 전진 떼면 멈춤



3번을 누르면 수레 좌회전

(수레가 좌회전 할때는 오른발이 땅에 닿아야합니다.)



4번을 누르면 수레 우회전

(수레가 우회전 할때는 왼발이 땅에 닿아야합니다.)