

Webots Tutorial

diajukan untuk memenuhi UAS mata kuliah Robotika dan Sistem Cerdas

oleh:

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PROGRAM STUDI S1 TEKNIK KOMPUTER

FAKULTAS TEKNIK ELEKTRO

UNIVERSITAS TELKOM

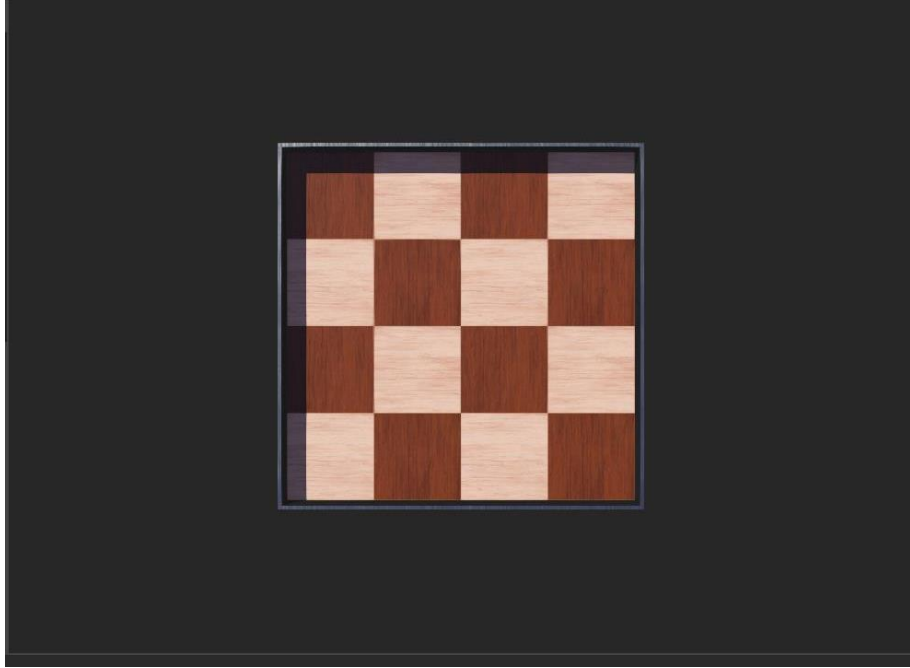
BANDUNG

2023

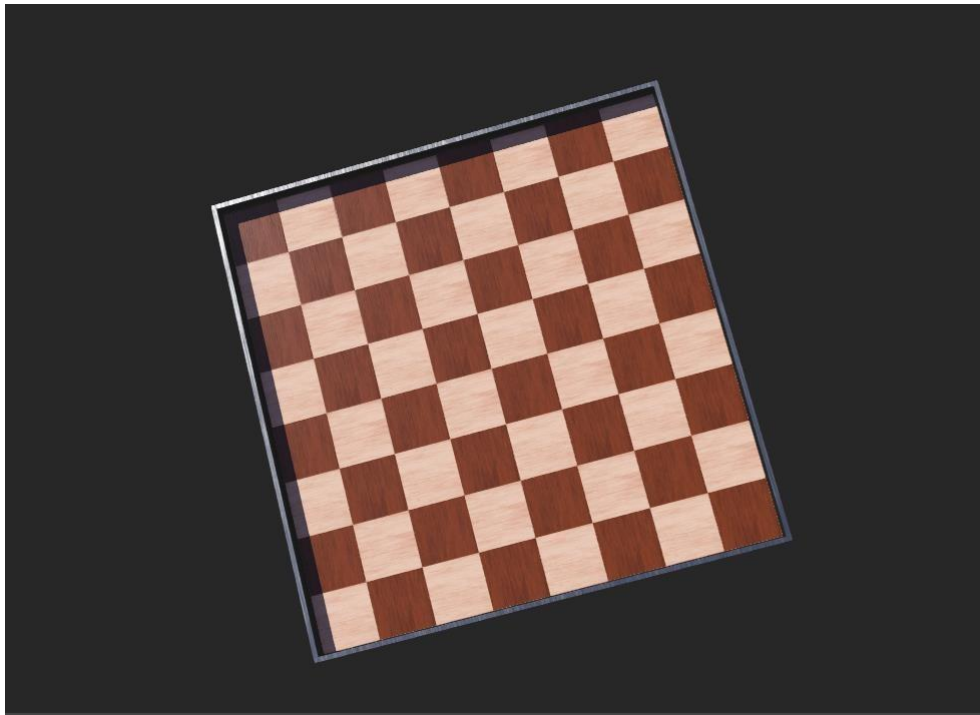
1. Your First Simulation in Webots

- a. Create a New World

Gambar 1 Hands-on 2



Gambar 2 Hands-on 3

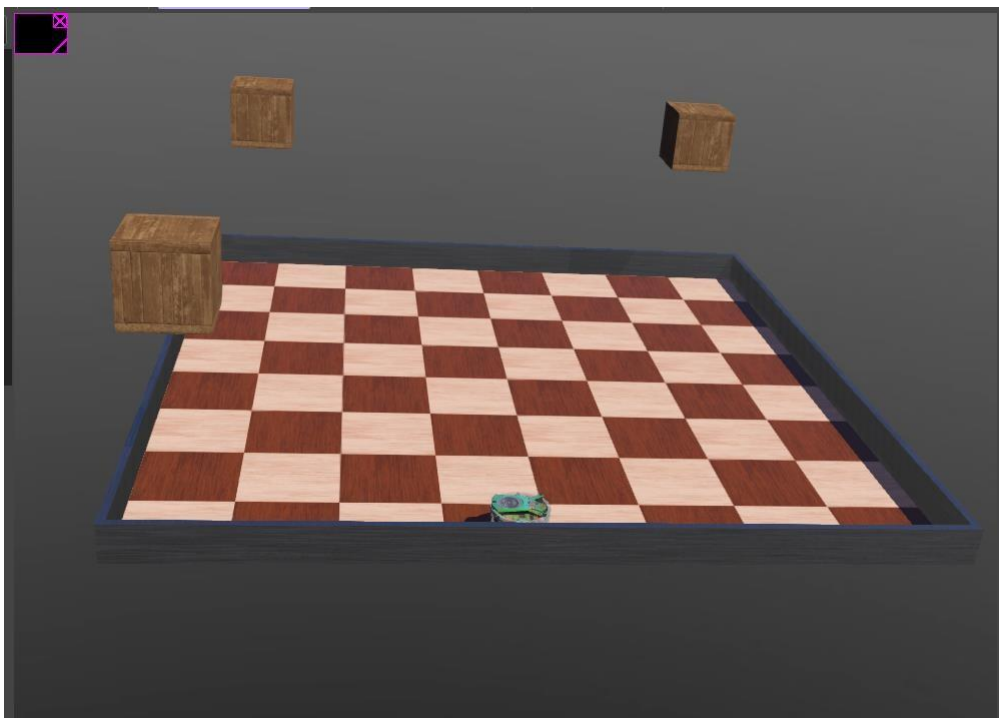


Gambar 3 Hands-on 4

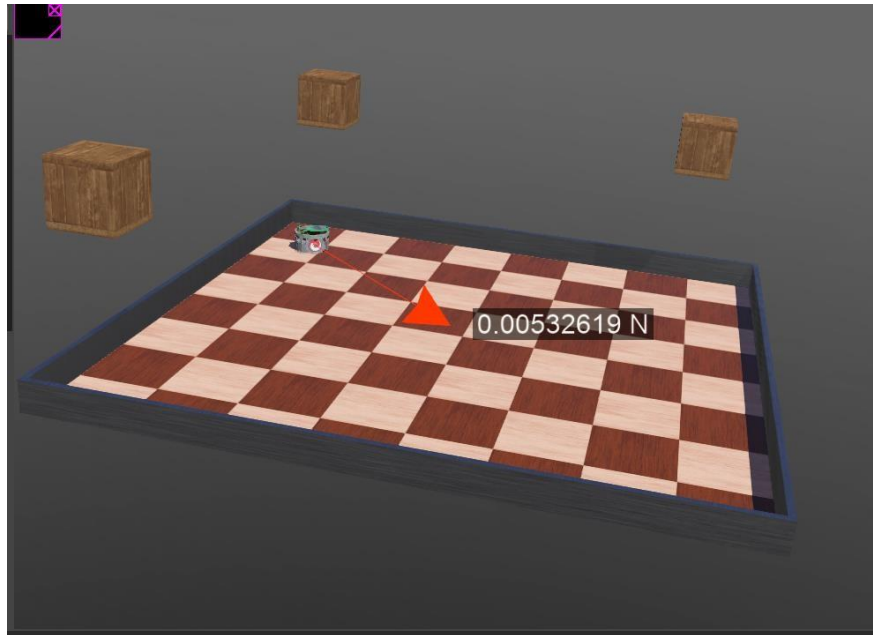


b. Add an e-puck Robot

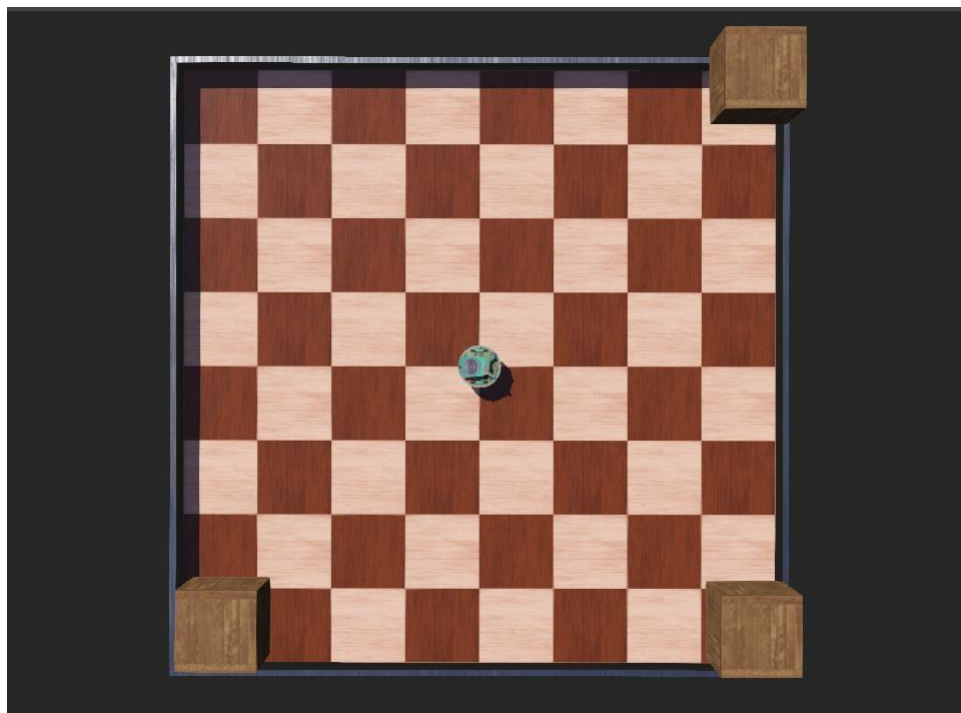
Gambar 4 Hands-on 5



Gambar 5 Hands-on 6

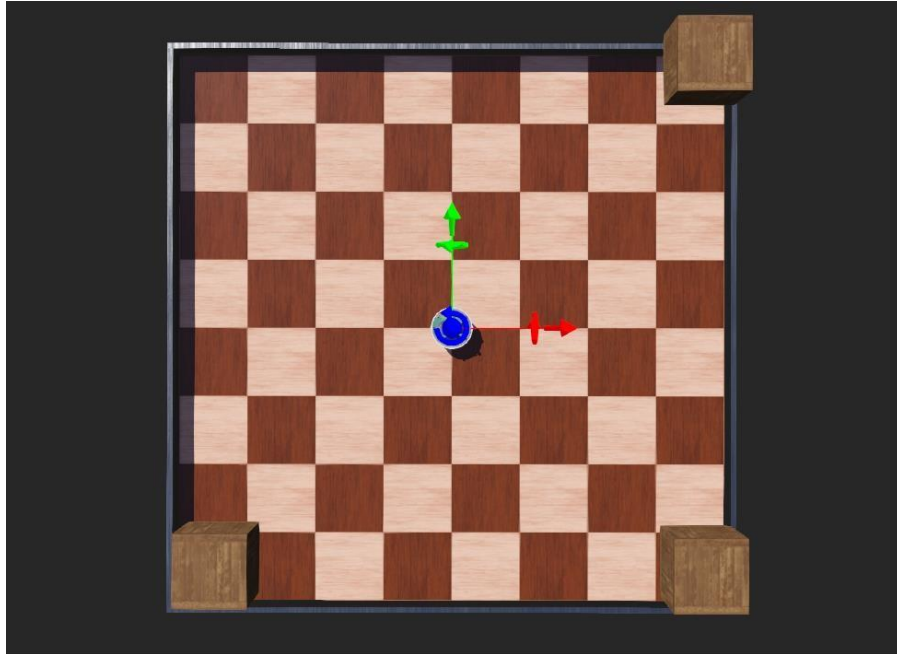


Gambar 6 Hands-on 7

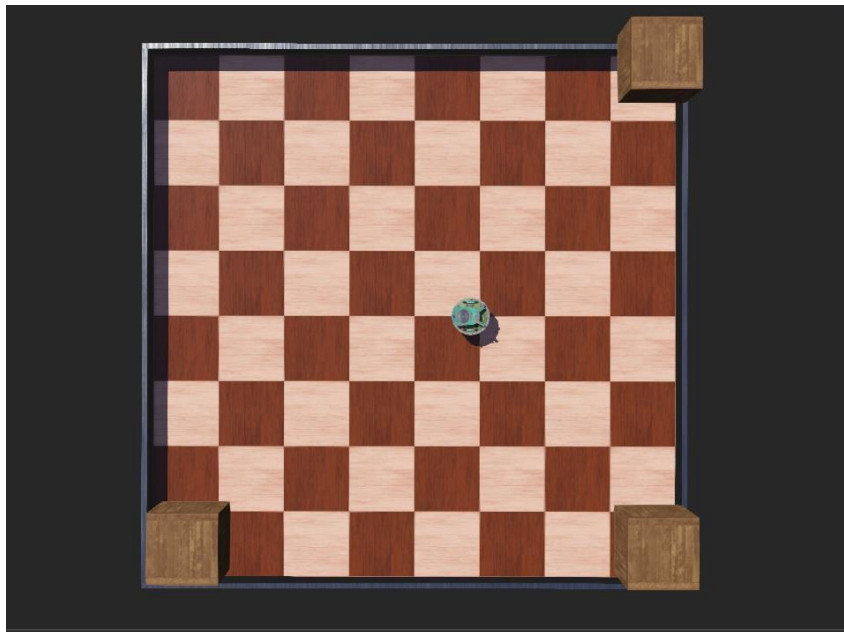


- c. Create a New Controller

Gambar 7 Hands-on 8

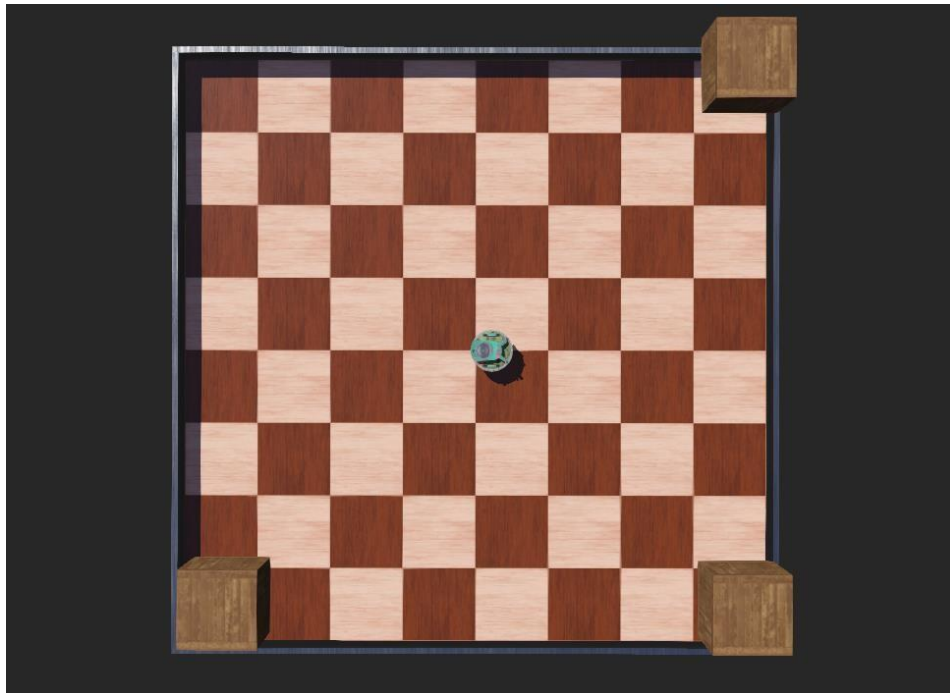


Gambar 8 Hands-on 9



- d. Extend the Controller to Speed Control

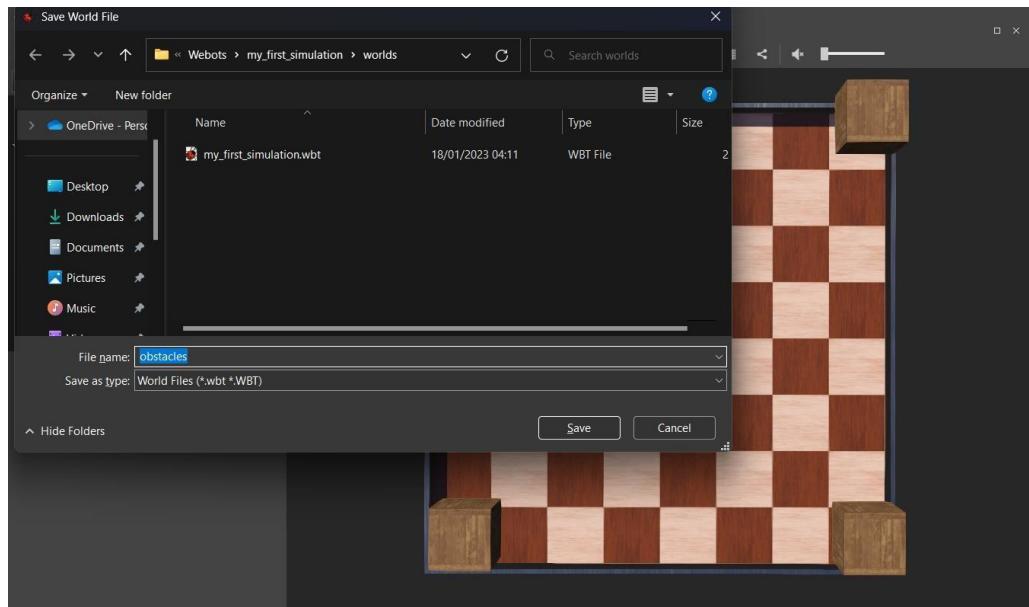
Gambar 9 Hands-on 10



2. Modification of the Environment

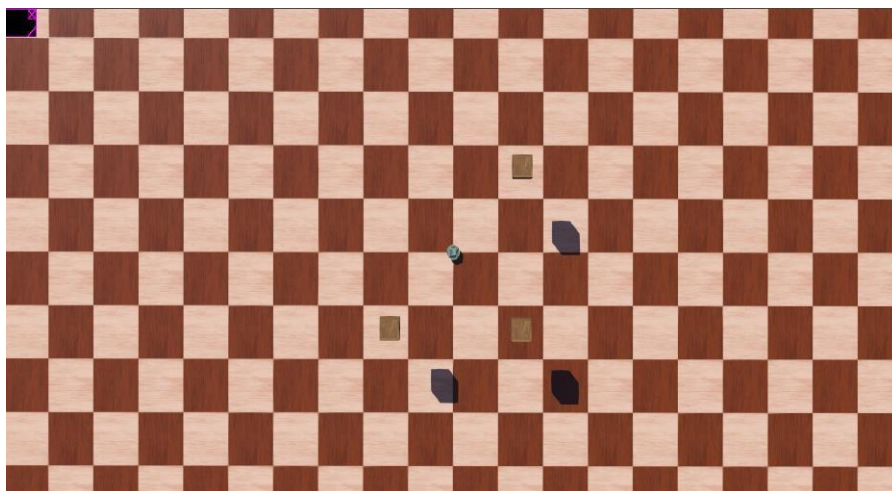
a. A New Simulation

Gambar 10 Hands-on 1



b. Modifying the Floor

Gambar 11 Hands-on 2

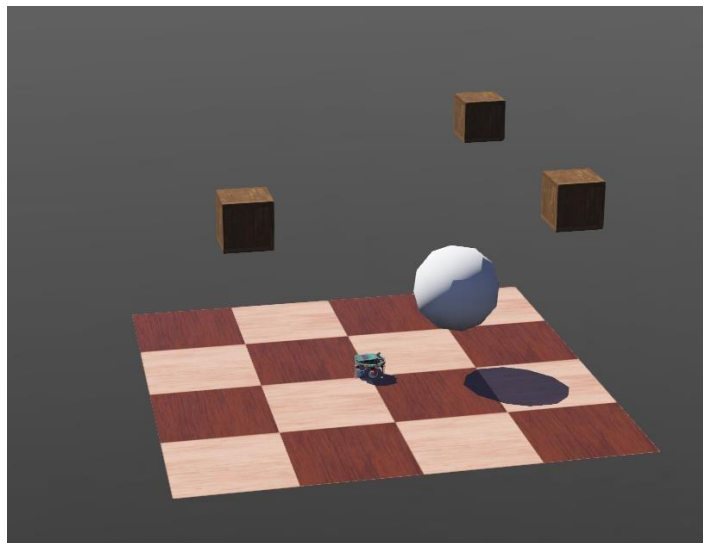


ASGambar 12 Hands-on 3



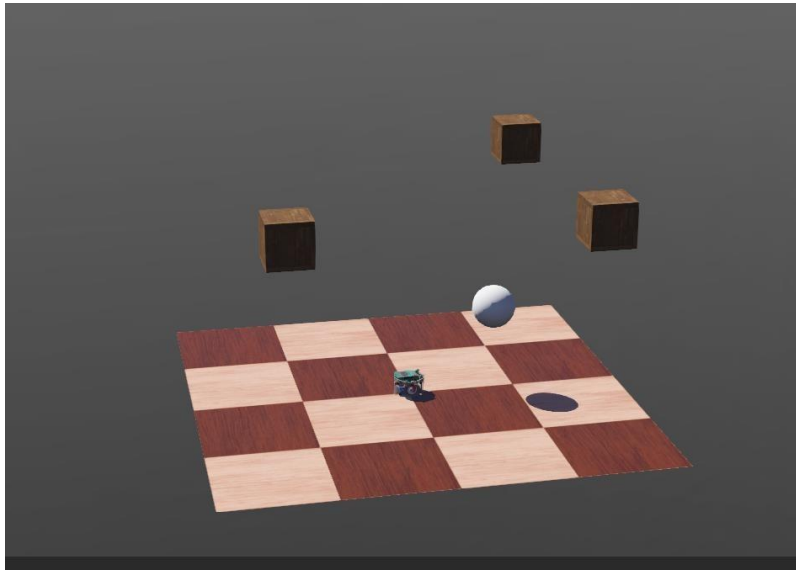
c. Create a Ball

Gambar 13 Hands-on 4



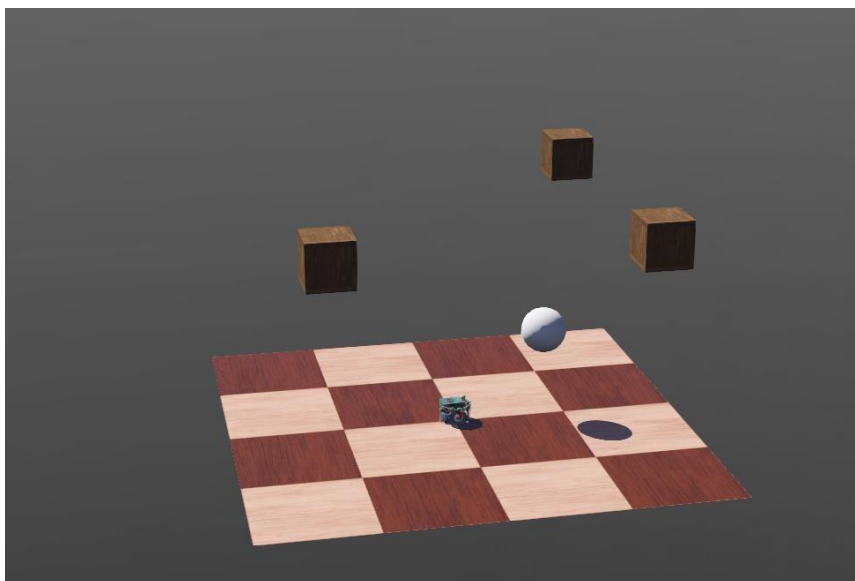
d. Geometries

Gambar 14 Hands-on 5

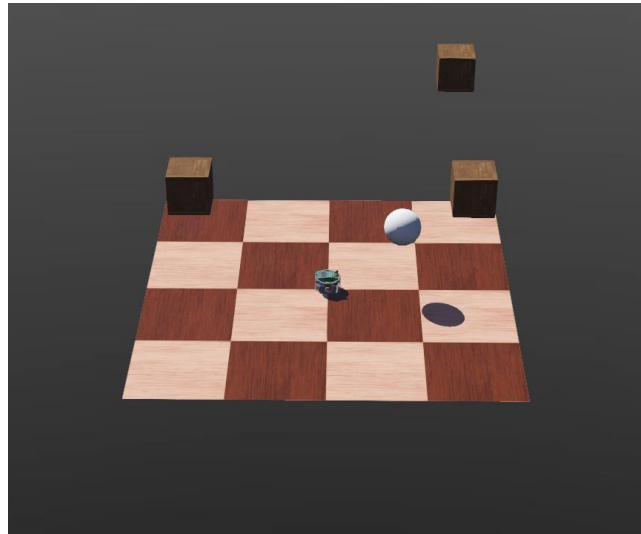


e. DEF-USE Mechanism

Gambar 15 Hands-on 6

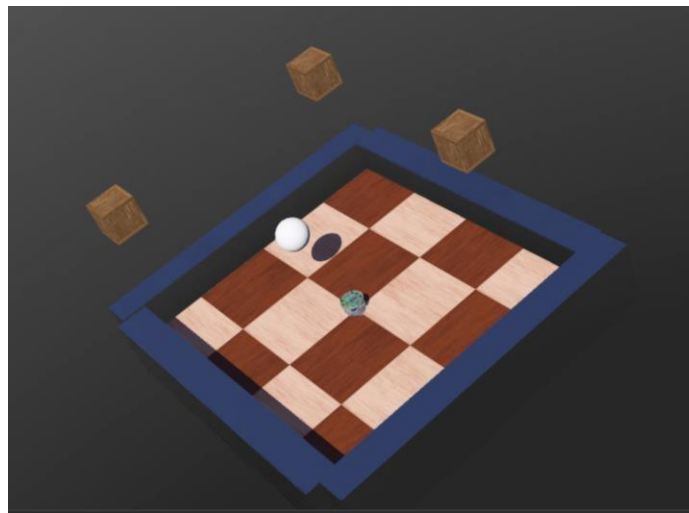


Gambar 16 Hands-on 7



f. Add Walls

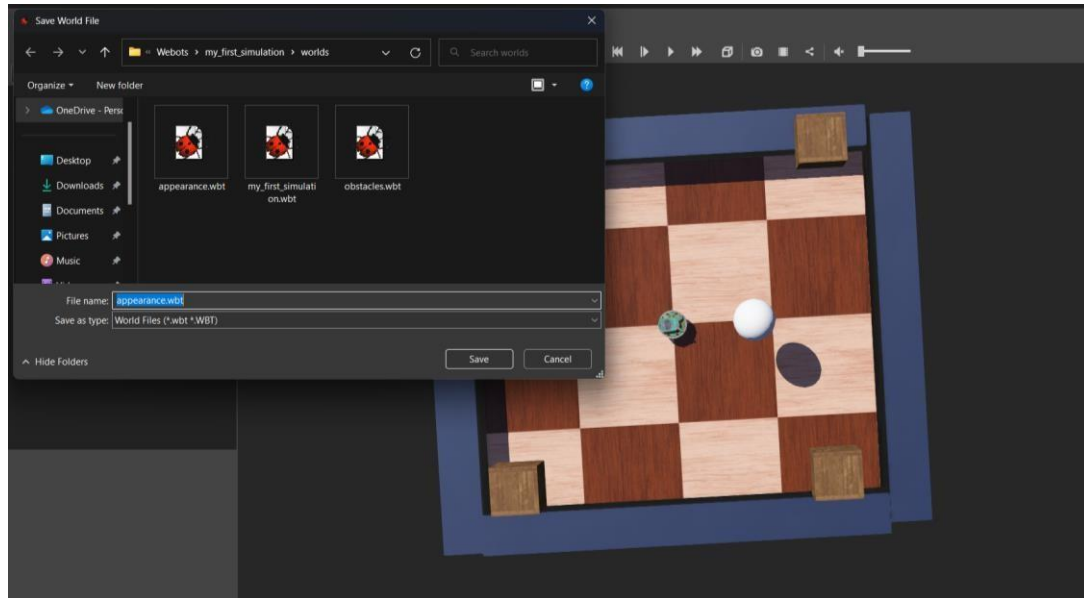
Gambar 17 Hands-on 8



3. Appearance

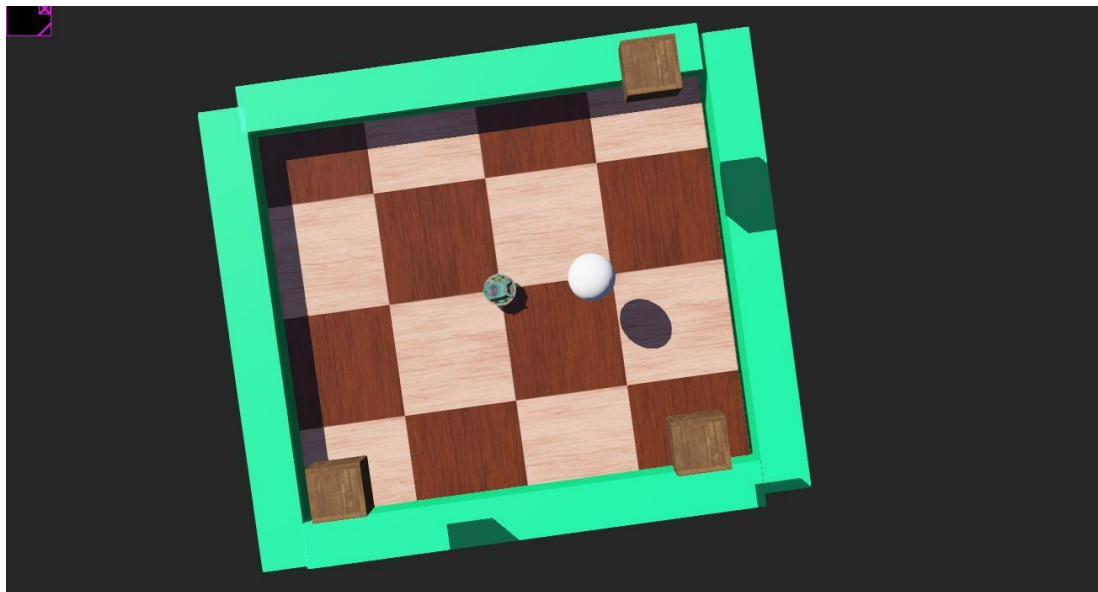
a. New Simulation

Gambar 18 Hands-on 1



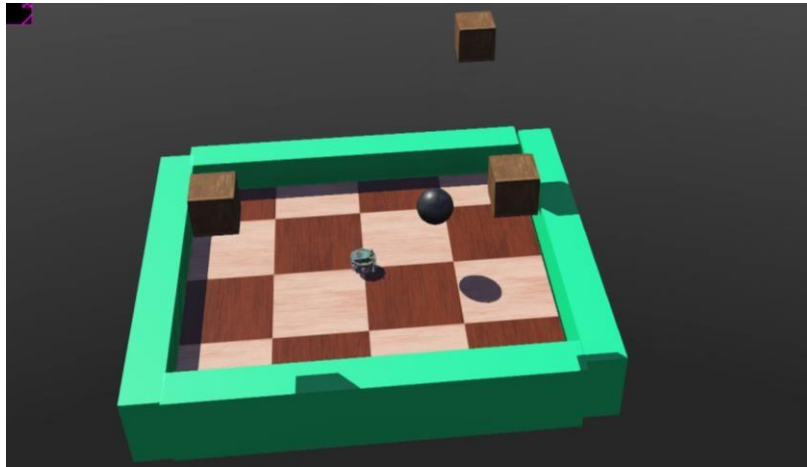
b. Modify the Appearance of the Walls

Gambar 19 Hands-on 2



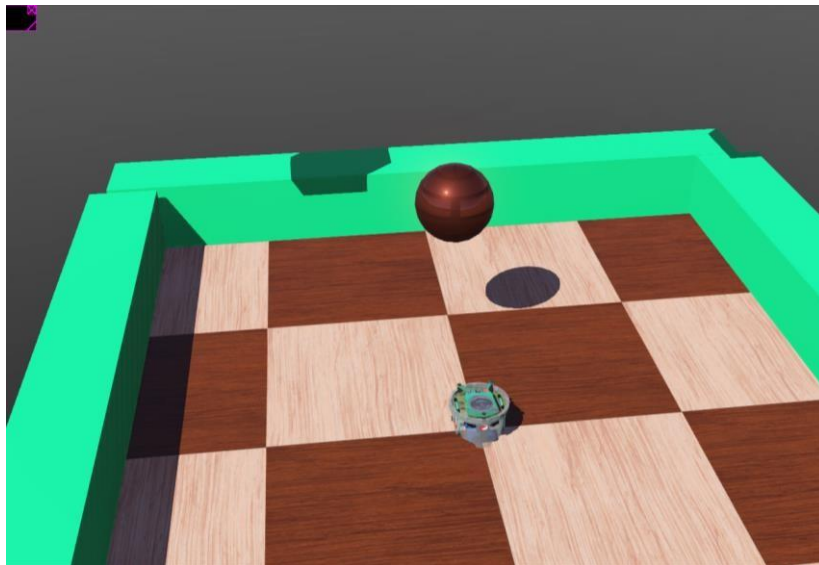
- c. Add an Existing Appearance to the Ball

Gambar 20 Hands-on 3



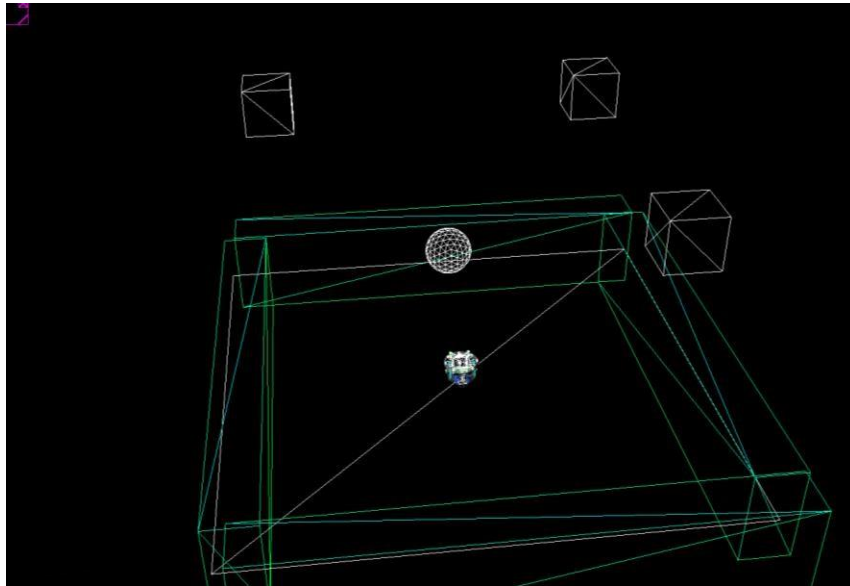
- d. Add a Texture from Disk

Gambar 21 Hands-on 4



e. Rendering Options

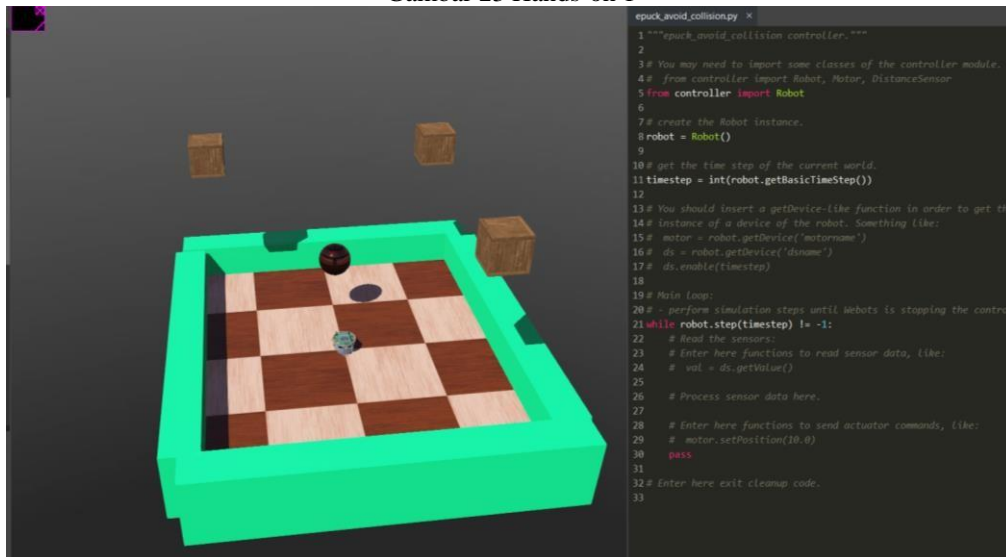
Gambar 22 Hands-on 5



4. More about Controllers

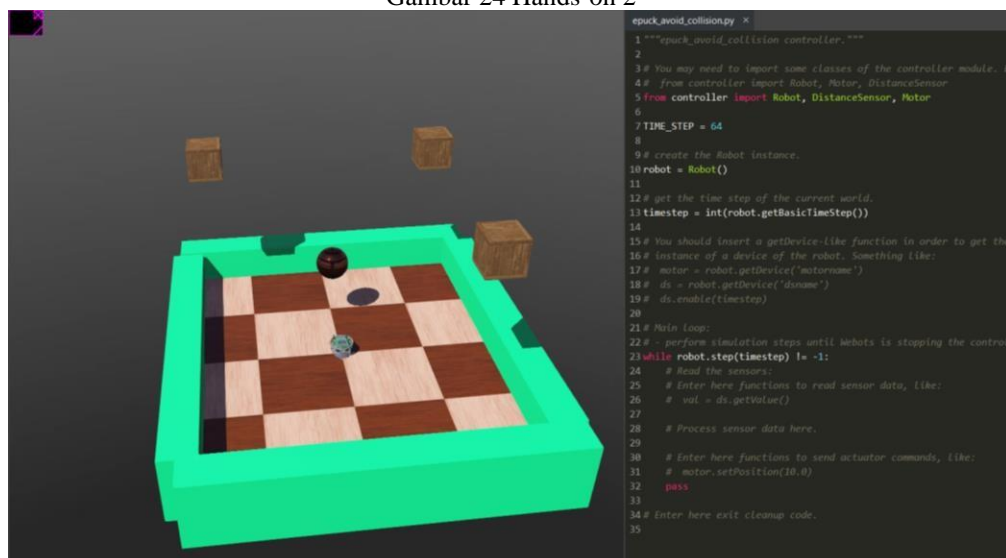
a. New World and New Controller

Gambar 23 Hands-on 1

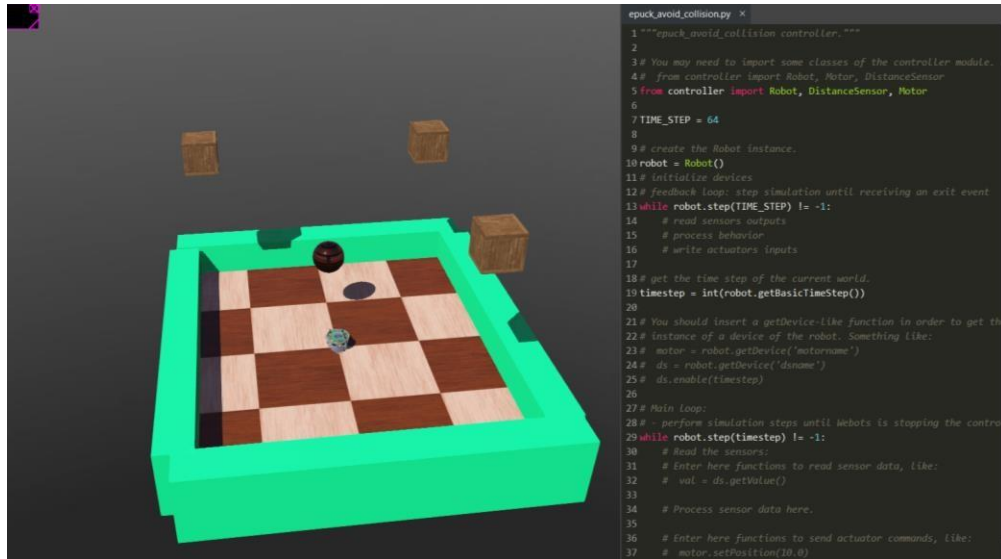


b. Program a Controller

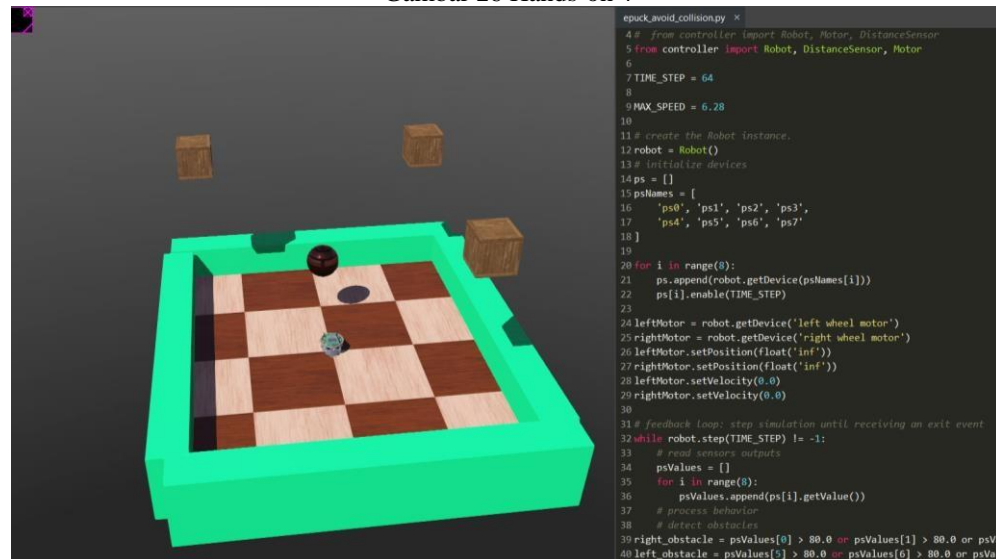
Gambar 24 Hands-on 2



Gambar 25 Hands-on 3



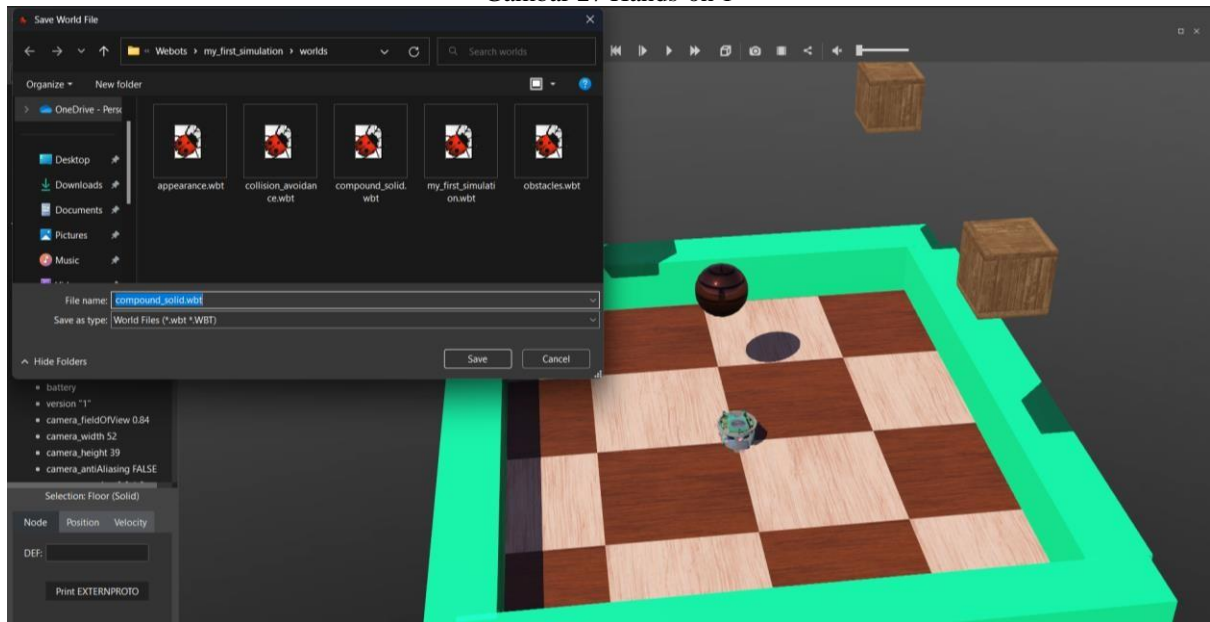
Gambar 26 Hands-on 4



5. Compound Solid and Physics Attributes

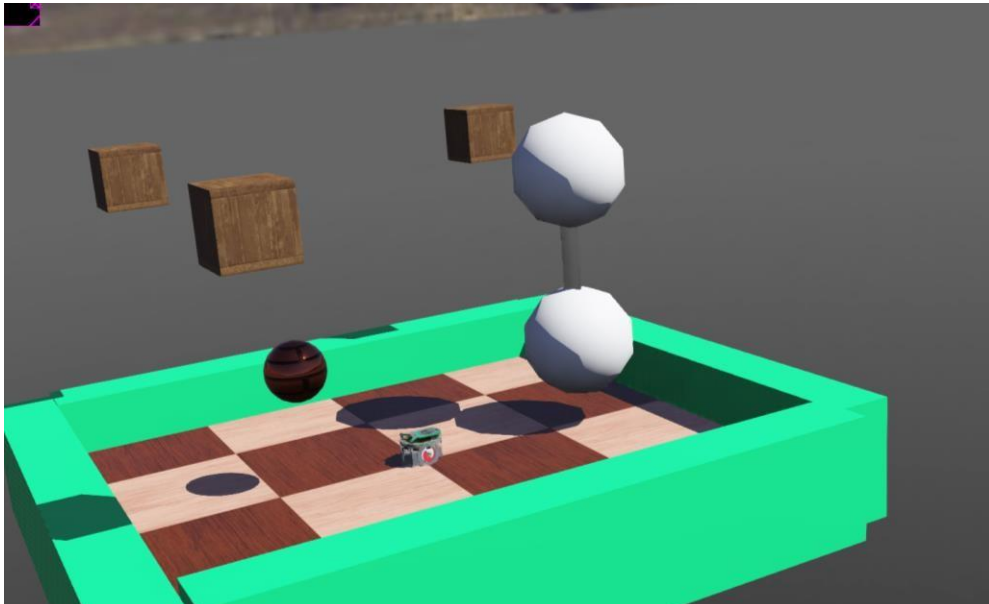
a. New Simulation

Gambar 27 Hands-on 1



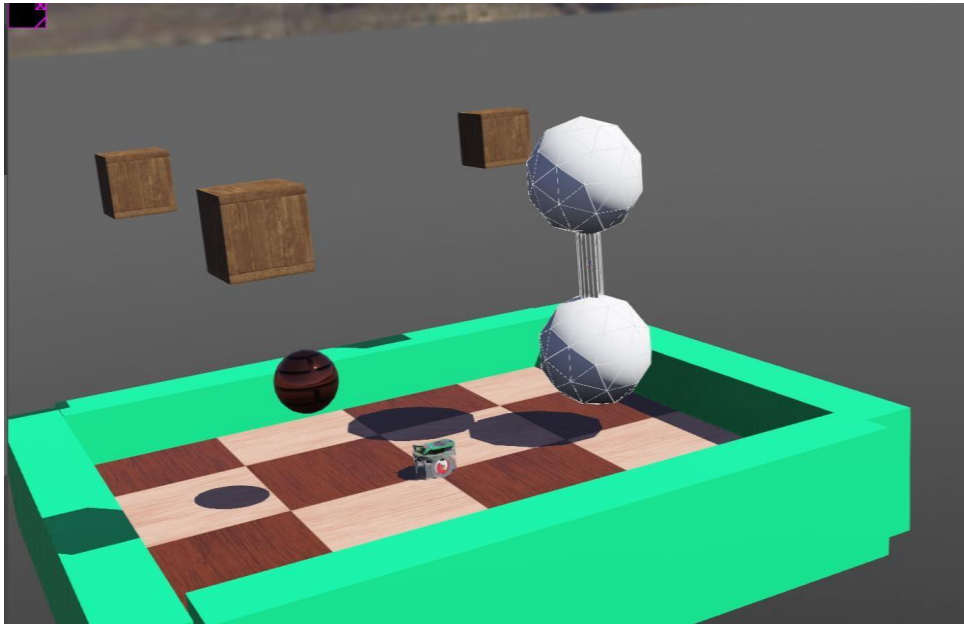
b. Compound Solid

Gambar 28 Hands-on 2

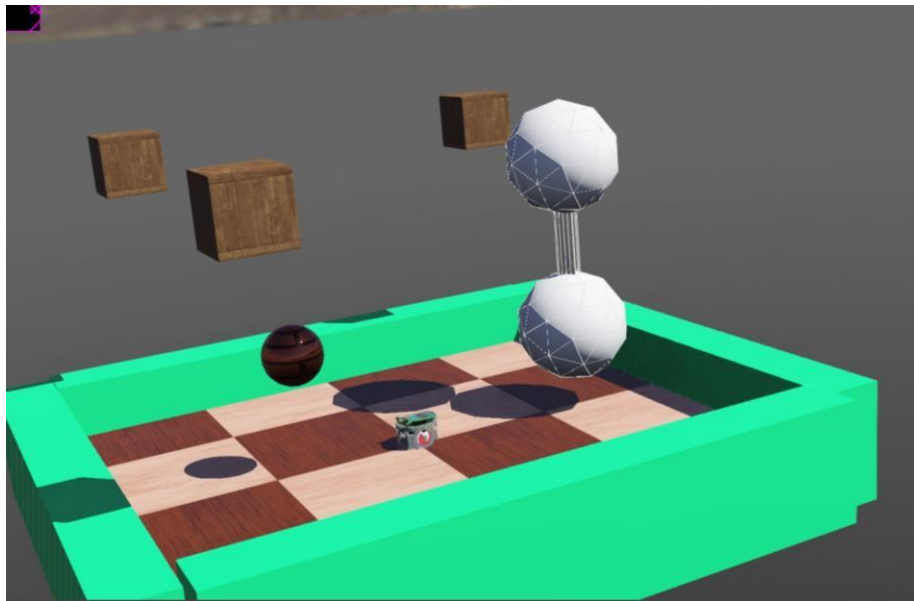


c. Physics Attributes

Gambar 29 Hands-on 3

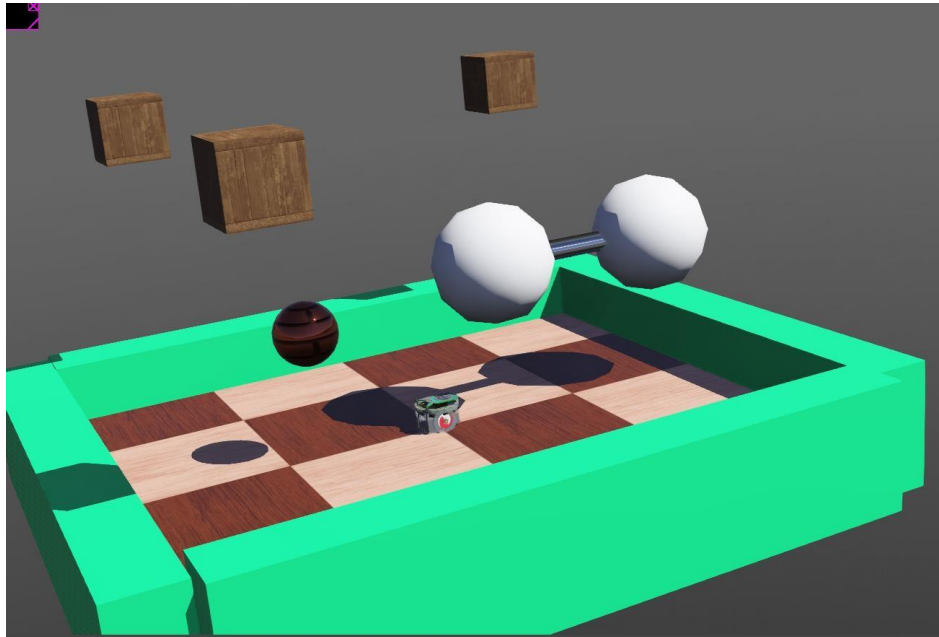


Gambar 30 Hands-on 4



d. The Rotation Field

Gambar 31 Hands-on 5



e. Contacts

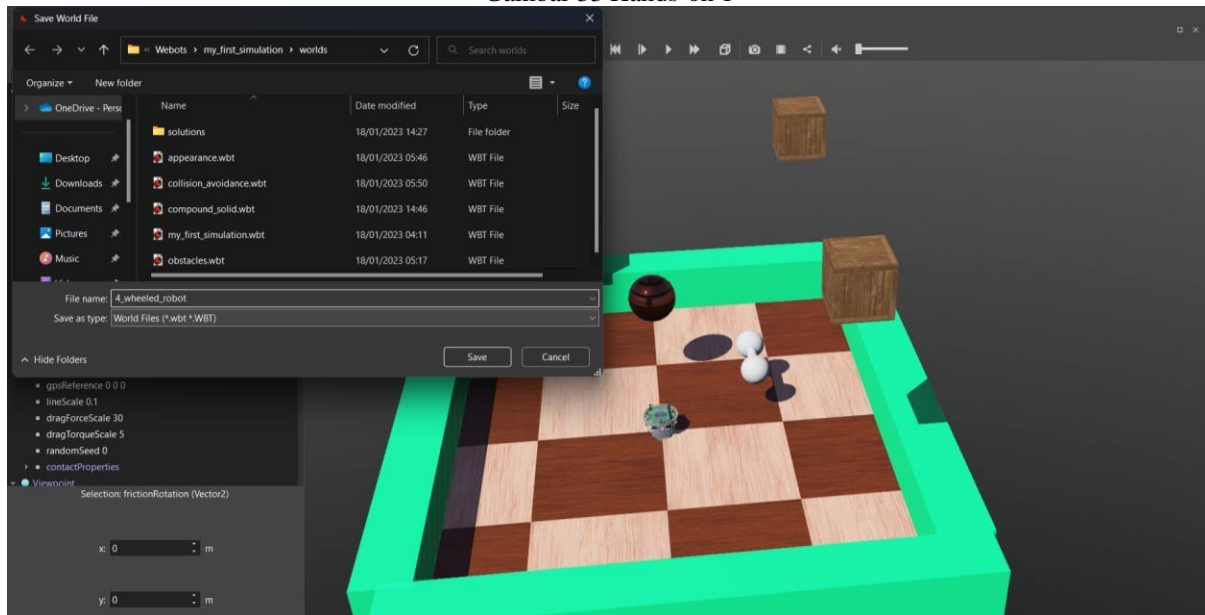
Gambar 32 Hands-on 6



6. 4-Wheeled Robot

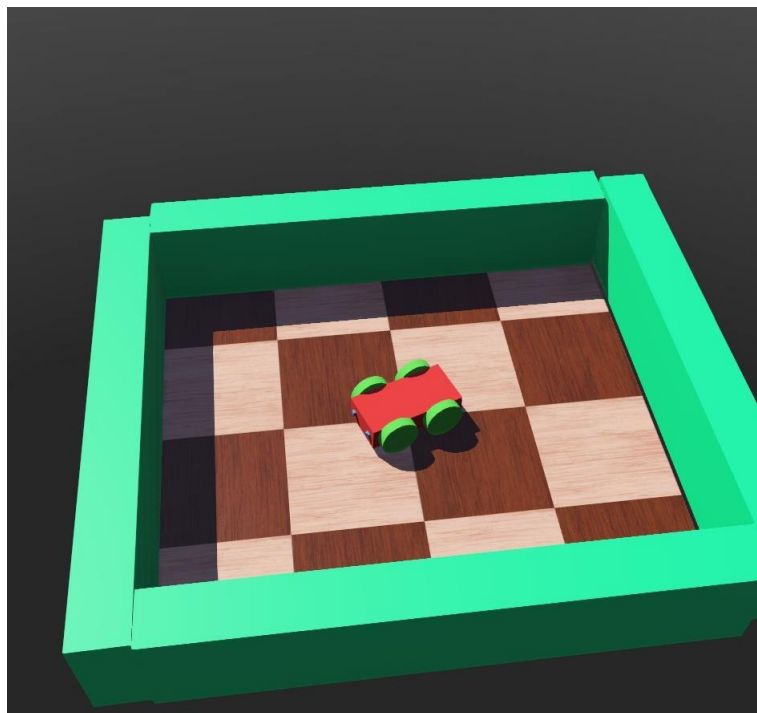
a. New Simulation

Gambar 33 Hands-on 1



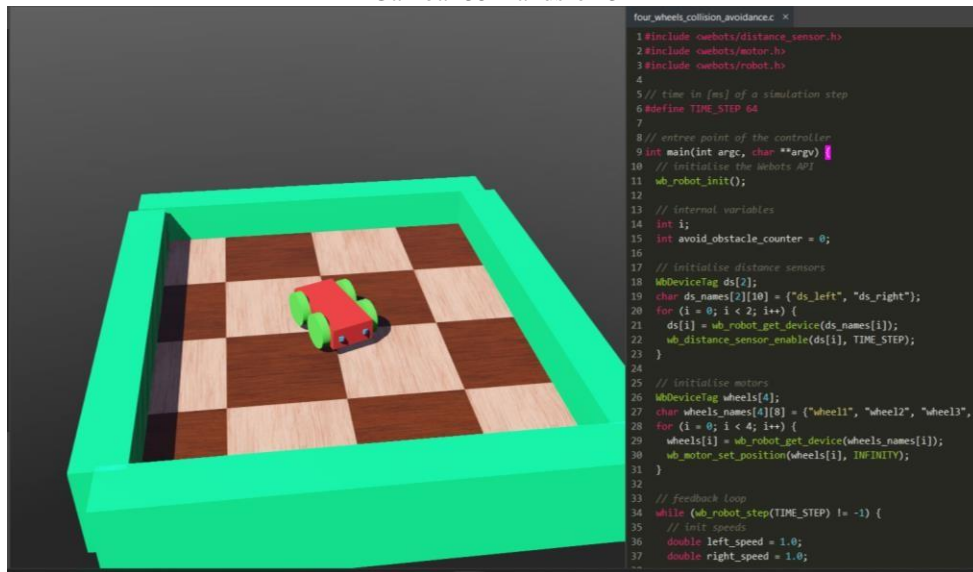
b. Separating the Robot in Solid Nodes

Gambar 34 Hands-on 2



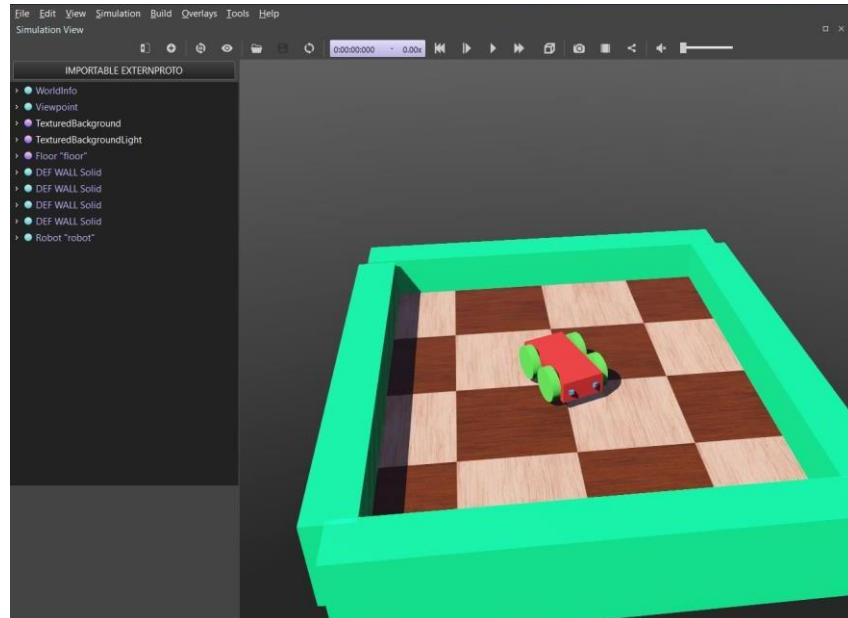
c. Controller

Gambar 35 Hands-on 3

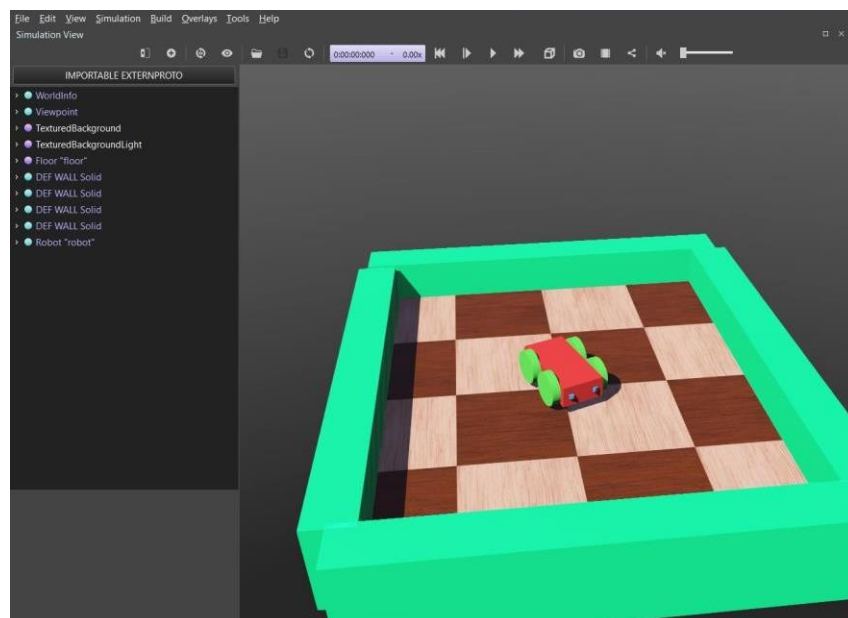


7. Your First PROTO

a. Copy the Robot Definition



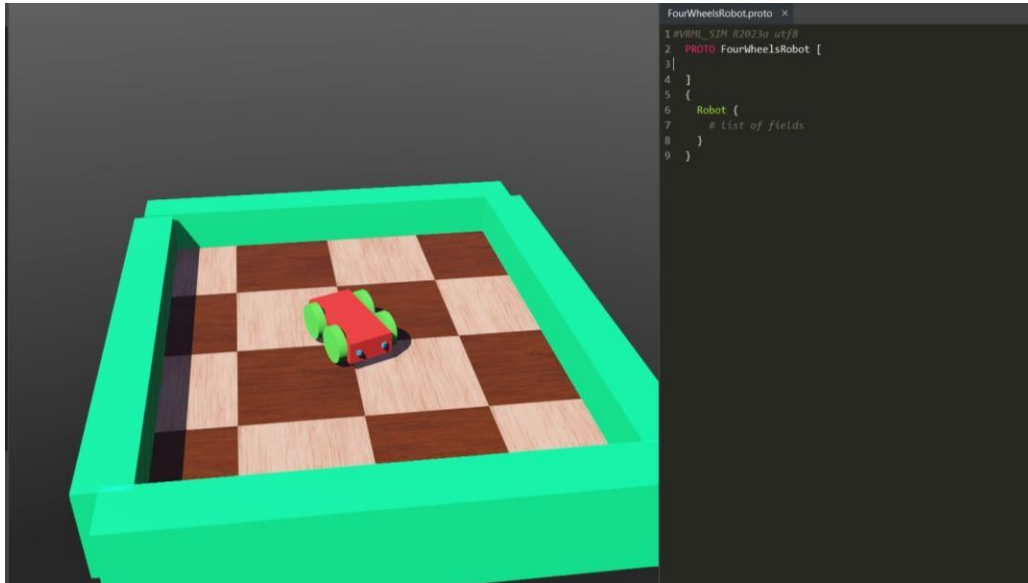
Gambar 36 Hands-on 1



Gambar 37 Hands-on 2

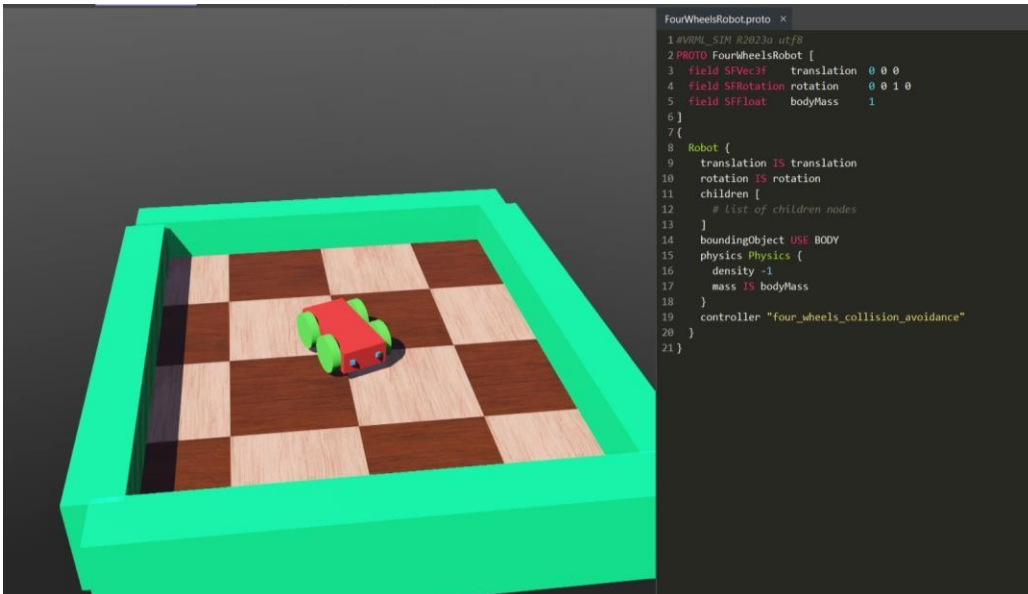
b. Use the PROTO Node

Gambar 38 Hands-on 3



c. Adding Fields

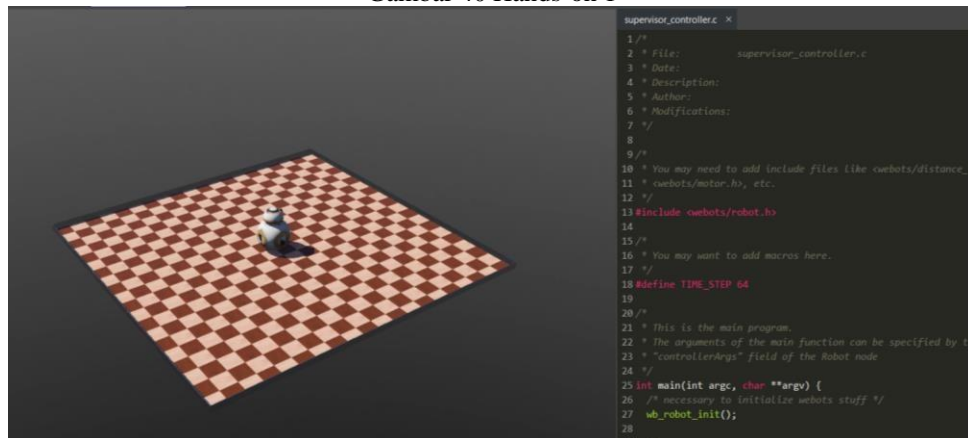
Gambar 39 Hands-on 4



8. the Supervisor

a. Setting up the Environment and Adding a Supervisor

Gambar 40 Hands-on 1



b. Putting Everything Together

Gambar 41 Hands-on 2

