

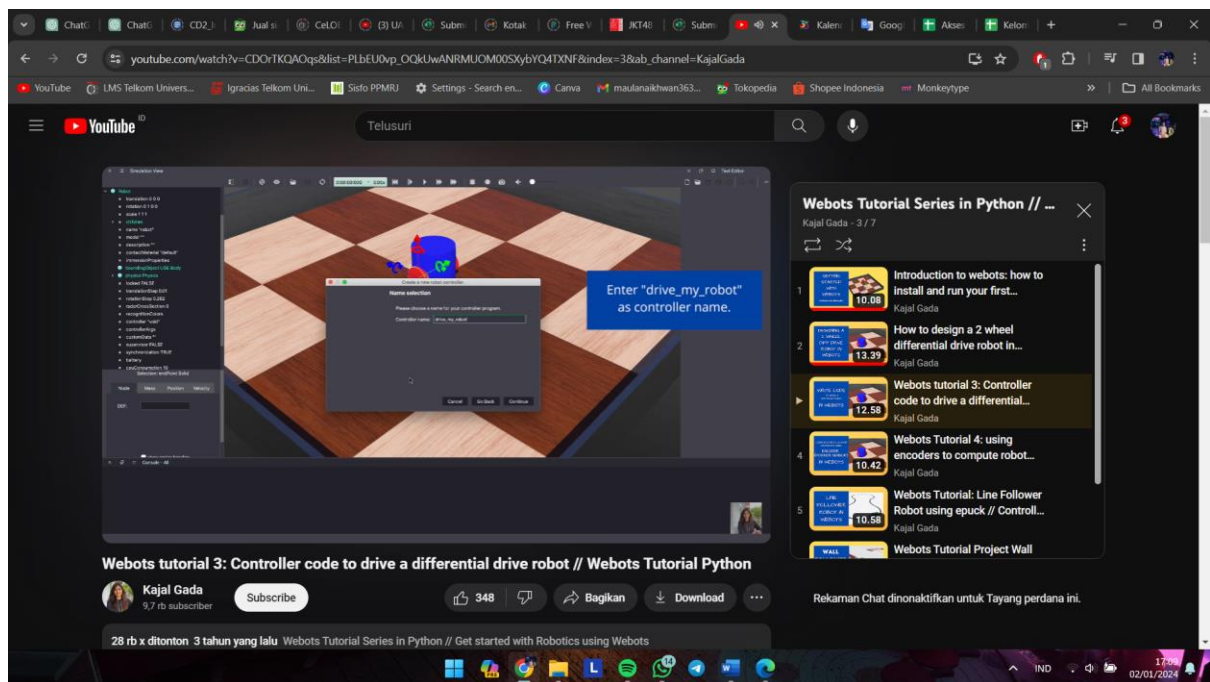
MUHAMMAD IKHWAN MAULANA

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## Webots in python 1-3

### Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python

1. Setelah proyek yang sudah dibuat sebelumnya, sekarang menambahkan kontroler pada robot.



2. Kontroler yang ditambahkan bisa di kode menggunakan bahasa python sesuai kebutuhan.

YouTube video player showing a tutorial titled "Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python" by Kajal Gada. The video displays a 3D simulation of a robot on a checkered floor, with a code editor overlay showing Python code for controlling the robot. The code includes imports for Robot, Motor, and DistanceSensor, and defines a main function to initialize the robot, set motor positions, and run a simulation loop.

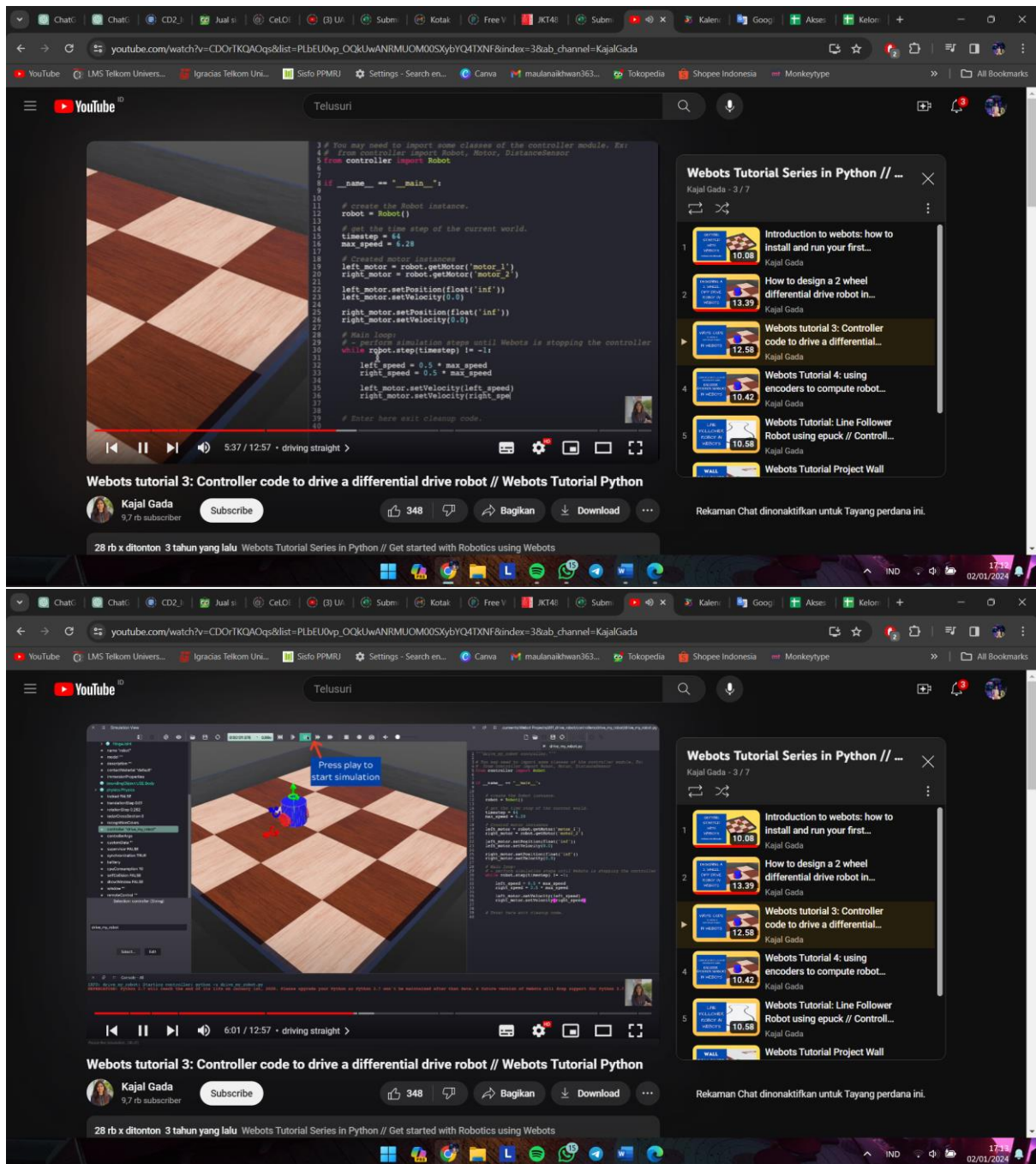
The video player interface shows the title "Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python" and the channel name "Kajal Gada". The video has 348 likes and 9.7K subscribers. The video player controls show the video is 3:28 / 12:57 long, with a progress bar at 3:28 / 12:57. The video is titled "Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python".

The code editor shows the following Python code:

```
1 # You may need to import some classes of the controller module. Ex:
2 # from controller import Robot, Motor, DistanceSensor
3 from controller import Robot
4
5
6
7
8 if __name__ == "__main__":
9
10
11     # create the Robot instance.
12     robot = Robot()
13
14     # get the time step of the current world.
15     timestep = 64
16
17     # You should insert a getDevice-like function in order to get the
18     # instance of a device of the robot. Something like:
19     # motor = robot.getMotor('motorname')
20     # ds = robot.getDistanceSensor('dsname')
21     # ds.enable(timestep)
22
23     left_motor = robot.getMotor('motor_1')
24     right_motor = robot.getMotor('motor_2')
25     left_motor.setPosition(float('inf'))
26     right_motor.setPosition(float('inf'))
27
28     # Main loop:
29     # - perform simulation steps until Webots is stopping the controller
30     while robot.step(timestep) != -1:
31         # Read the sensors:
32         # Enter here functions to read sensor data, like:
33         # val = ds.getValue()
34
35         # Process sensor data here.
36
37         # Enter here functions to send actuator commands, like:
38         # motor.setPosition(10.8)
39         pass
40
41     # Done! Now exit cleanly
```

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3. Setelah itu, kita coba mengontrol robot agar berjalan lurus.



4. Robot bisa digerakkan sesuai kehendak kita, entah itu kecepatan dan arahnya.



YouTube video player showing a diagram of a differential drive robot. The diagram illustrates two cases for turning a robot:

- Left turn:  $\text{left\_speed} < \text{right\_speed}$
- Right turn:  $\text{left\_speed} = -\text{right\_speed}$

The video title is "Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python". The channel is Kajal Gada, with 9.7k subscribers. The video has 348 likes and 1 share.

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- 2 How to design a 2 wheel differential drive robot in... Kajal Gada 13.39
- 3 Webots tutorial 3: Controller code to drive a differential... Kajal Gada 12.58
- 4 Webots Tutorial 4: using encoders to compute robot... Kajal Gada 10.42
- 5 Webots Tutorial: Line Follower Robot using epuck // Control... Kajal Gada 10.58

Webots Tutorial Project Wall

Rekaman Chat dinonaktifkan untuk Tayang perdana ini.

YouTube video player showing a 3D simulation of a differential drive robot in a virtual environment. The robot is a blue cylinder on a checkered floor. The video title is "Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python". The channel is Kajal Gada, with 9.7k subscribers. The video has 348 likes and 1 share.

Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python

Kajal Gada 9.7k subscriber

left\_speed = 0.25 \* max\_speed  
right\_speed = 0.5 \* max\_speed

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YouTube video player interface for "Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python" by Kajal Gada. The video shows a 3D simulation of a robot on a checkered floor. The code displayed in the video is as follows:

```
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17
18 # Create motor instances
19 left_motor = robot.getMotor('motor_1')
20 right_motor = robot.getMotor('motor_2')
21
22 left_motor.setPosition(float('inf'))
23 left_motor.setVelocity(0.0)
24
25 right_motor.setPosition(float('inf'))
26 right_motor.setVelocity(0.0)
27
28 run_time = 0
29 length_side = 0.25
30
31 wheel_radius = 0.025
32 linear_velocity = wheel_radius * max_speed
33
34 duration_side = length_side/linear_velocity
35
36 start_time = robot.getTime()
37
38
39 # Main loop
40 # Periodic simulation steps until Webots is stopping th
41 while robot.step(timestep) != -1:
42     current_time = robot.getTime()
43
44     left_speed = max_speed
45     right_speed = max_speed
46
47     if current_time > start_time + duration_side:
48
49         left_motor.setVelocity(left_speed)
50         right_motor.setVelocity(right_speed)
51
52
```

Webots tutorial 3: Controller code to drive a differential drive robot // Webots Tutorial Python

Kajal Gada  
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