PROGRAMMING OF 4-AXIS MOVER ROBOTIC ARM USING JOYSTICK

Event No	MI002
Organizing Department	Mechatronics Engineering
Associate Dept. | NSC	Mechatronics Engineering
Date	18/11/2023 to 24/11/2023 (7 Days)
Time	04:00 PM to 06:00 PM
Event Type	VAC / Training Program
Event Level	Dept. Level
Venue	CoE (Robotics and Automation)
Total Participants	34
Students - Internal	34

Related SDG

Involved Staffs

Sl	Name	Role
1	Balaji Arunachalam	Coordinator

Outcome

The event outcomes would depend on develop and implement the code within the provided template for controlling a 4-axis industrial manipulator using a joystick. The potential outcomes based on different stages of development and testing by the students in their future endeavor.

Event Summary

The event was intended to the students in the scope of below points.**Code Execution:**If there are no syntax errors or other issues, the program should run successfully and continuously read joystick input.**Joystick Input:**As you manipulate the joystick, the program should print movement commands to the console based on the joystick input.**Integration with Robot:**If you successfully implement the section for sending movement commands to the robot within the main loop, you should see the manipulator responding to the joystick input.**Robot Movement:**The outcome depends on the correctness of the movement commands and the compatibility with your specific robot. If the commands are accurate and appropriate for your robot's control interface, the manipulator should move accordingly.**Adaptation and Customization:**If you have properly adapted the code to your robot's specifications, including the correct communication protocols and command formats, the program should be suitable for controlling your 4-axis industrial manipulator.**Testing and Debugging:**During testing, you may encounter issues such as unexpected movements, incorrect responses, or communication problems. Debugging will be essential to identify and address these issues.**User Interaction:**If you've implemented a user-friendly interface or feedback system, users should be able to control the robot intuitively using the joystick.**Safety Considerations:**Ensure that your code includes safety features to prevent unintended or unsafe movements of the industrial manipulator. Safety should be a priority in robotic control applications.**Documentation:**Documenting the code and providing instructions for users will contribute to the success of the project, making it easier for others to understand and modify the code if needed.

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