

Exceptional and Error Handling Testcases

1. Test Invalid Rotation Direction

- **Input:** `rotate diagonal` or any direction not in ["North", "South", "East", "West"].
- **Expected Outcome:** The application should log an error message indicating an invalid rotation direction.

2. Test Activating Already Active Solar Panels

- **Input:** `activatePanels` twice in a row.
- **Expected Outcome:** The first command should activate the panels and log the action. The second command should trigger a warning indicating the panels are already active.

3. Test Deactivating Already Inactive Solar Panels

- **Input:** `deactivatePanels` twice in a row.
- **Expected Outcome:** The first command should deactivate the panels and log the action. The second command should trigger a warning indicating the panels are already inactive.

4. Test Collecting Data with Inactive Solar Panels

- **Input:** Ensure the solar panels are inactive (using `deactivatePanels` if necessary), then use `collectData`.
- **Expected Outcome:** The application should log an error indicating that data collection cannot occur because the solar panels are inactive.

5. Test Collecting Data with Active Solar Panels

- **Input:** Activate the solar panels with `activatePanels`, then use `collectData`.
- **Expected Outcome:** The data collection should be successful, and the application should log the new data collected amount.

6. Test Invalid Command Input

- **Input:** Enter a command that doesn't exist, like `flytoMoon`.
- **Expected Outcome:** The application should log an error indicating an invalid command.

7. Test Exit Command

- **Input:** Enter `exit`.

Expected Outcome: The application should exit gracefully, logging the exit message.