Test Report for Chemical Plant Alarm Management System

Test Case 1:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for CO2 Alarm, Monday Day, Electrical Expert (ID 134).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday day” period. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “CO2 detected” (chemical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 134, an electrical expert, is not qualified to handle the “CO2 detected alarm”, resulting in a post-condition failure.

Test Steps:

1. Select “Monday day” from the “Expert on Page” popup’s period dropdown.
2. Select “CO2 detected” from the alarm dropdown.
3. Enter “134” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert
6. Observe console output.

Expected Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Test Case 2:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for CO2 Alarm, Monday Day, Bio & Chem Expert (ID 169).

Test Case Description:

Verify that the system accurately calculates and displays the number of experts available during the “Monday day” period. Confirm that the pre-condition logic correctly indicates the presence of at least one expert qualified to handle a “CO2 detected” (chemical) alarm during that period. Ensure that the post-condition logic correctly identifies that expert ID 169, a Bio & Chem expert, is available on “Monday day” and also qualified to handle the “CO2 detected” alarm, resulting in a post-condition value “true”.

Test Steps:

1. Select “Monday day” from the “Expert on Page” popup’s period dropdown.
2. Select “CO2 detected” from the alarm dropdown.
3. Enter “169” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert
6. Observe console output.

Expected Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: true

Actual Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: true

Test Case 3:

Test Case Title:

Verify Expert Assignment and Pre-Post condition for CO2 Alarm, Monday Night, Chem & Mech Expert (ID 145).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday night”. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “CO2 detected” (chemical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 145, a chem & Mech expert, is not available during “Monday night” and therefore not qualified to handle the “CO2 detected” alarm, resulting in a post-condition failure.

Test Steps:

1. Select “Monday night” from the “Expert on Page” popup’s period dropdown.
2. Select “CO2 detected” from the alarm dropdown.
3. Enter “145” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert
6. Observe console output.

Expected Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Test Case 4:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for Power Supply Alarm, Monday Night, Chem & Mech Expert (ID 145).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday night”. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “Power supply missing” (electrical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 145, a chem & Mech expert, is not available during “Monday night” and therefore not qualified to handle the “Power supply missing” alarm, resulting in a post-condition failure.

Test Steps:

1. Select “Monday night” from the “Expert on Page” popup’s period dropdown.
2. Select “Power supply missing” from the alarm dropdown.
3. Enter “145” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert
6. Observe console output.

Expected Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Test Case 5:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for Power Supply Alarm, Monday Night, Elec & Mech Expert (ID 181).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday night” period. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “Power supply missing” (electrical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 181, Elec & Mech expert, is not available during “Monday night” therefore not qualified to handle the “Power supply missing” alarm, resulting in a post-condition failure.

Test Steps:

1. Select “Monday night” from the “Expert on Page” popup’s period dropdown.
2. Select “Power supply missing” from the alarm dropdown.
3. Enter “181” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert.
6. Observe console output.

Expected Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Test Case 6:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for Tank Overflow Alarm, Monday Day, Bio, Chem & Elec Expert (ID 154).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday day” period. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “Tank Overflow” (mechanical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 154, Bio, Chem, Elec expert, is not qualified to handle the “Tank Overflow” alarm, resulting in a post-condition failure.

Test Steps:

1. Select “Monday day” from the “Expert on Page” popup’s period dropdown.
2. Select “Tank Overflow” from the alarm dropdown.
3. Enter “154” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert.
6. Observe console output.

Expected Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Test Case 7:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for Tank Overflow Alarm, Monday Night, Chem & Mech Expert (ID 145).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday night” period. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “Tank Overflow” (mechanical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 145, a Chem & Mech expert, is not available during “Monday night” and therefore not qualified to handle the “Tank Overflow” alarm on “Monday night”, resulting in a post-condition failure.

Test Steps:

1. Select “Monday night” from the “Expert on Page” popup’s period dropdown.
2. Select “Tank Overflow” from the alarm dropdown.
3. Enter “145” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert.
6. Observe console output.

Expected Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Test Case 8:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for Tank Overflow Alarm, Monday Day, Bio & Chem Expert (ID 169).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday day” period. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “Tank Overflow” (mechanical) alarm

during that period. Ensure that the postcondition logic correctly identifies the expert ID 169, a Bio &Chem expert, is not qualified due to incorrect specialization to handle the “Tank Overflow” alarm, resulting in a post-condition failure.

Test Steps:

1. Select “Monday day” from the “Expert on Page” popup’s period dropdown.
2. Select “Tank Overflow” from the alarm dropdown.
3. Enter “169” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert.
6. Observe console output.

Expected Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Test Case 9:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for Power Supply Alarm, Tuesday Day, Bio Expert (ID 165).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Tuesday day” period. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “Power Supply missing” (electrical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 165, a Bio expert, is not qualified due to incorrect specialization to handle the “Power supply missing” alarm, resulting in a post-condition failure.

Test Steps:

1. Select “Tuesday day” from the “Expert on Page” popup’s period dropdown.
2. Select “Power supply missing” from the alarm dropdown.
3. Enter “165” into the expert ID field.

4. Click “OK”
5. Popup shows the availability of qualified expert.
6. Observe console output.

Expected Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 3

Precondition Result: true

Postcondition Result: false

Test Case 10:

Test Case Title:

Verify Expert Assignment and Pre/Post condition for CO2 Alarm, Monday night, Elec & Mech Expert (ID 181).

Test Case Description:

Verify that the system correctly calculates and displays the number of experts available during “Monday night” period. Confirm that the precondition logic correctly indicates the presence of at least one expert qualified to handle “CO2 detected” (Chemical) alarm during that period. Ensure that the postcondition logic correctly identifies the expert ID 181, an Elec & Mech expert, is not available and also expert qualification doesn’t match to handle the “CO2” alarm, resulting in a post-condition failure.

Test Steps:

1. Select “Monday night” from the “Expert on Page” popup’s period dropdown.
2. Select “CO2 detected” from the alarm dropdown.
3. Enter “181” into the expert ID field.
4. Click “OK”
5. Popup shows the availability of qualified expert.
6. Observe console output.

Expected Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false

Actual Result:

Number of Experts 1

Precondition Result: true

Postcondition Result: false