**How IR LINE SENSOR detect black and white:**

// checking interrupt is Rise

1. if (isRise) {

    // checking the white space after scanning the black bar

2.    if (isGap) {

        // stop the timer for detecting white

3.        endTimeWhite = to\_ms\_since\_boot(get\_absolute\_time());

        // calculate the white width space

4.        whiteWidth = endTimeWhite - startTimeWhite;

        // Print the outcome (Debug purpose)

5.        printf("White Width: %llu\n",whiteWidth);

        // set the space to false

6.        isGap = false

    }

    // detected black start the timer

7.    startTimeBlack = to\_ms\_since\_boot(get\_absolute\_time());

    // set detect black to false

8.    isRise = false

}

// checking interrupt is Rise

9. if (isFail) {

    // stop the timer for detecting black

10.    endTimeBlack = to\_ms\_since\_boot(get\_absolute\_time());

    // calculate the black width

11.    blackWidth = endTimeBlack - startTimeBlack;

    // Print the outcome (Debug purpose)

12.    printf("Black Width: %llu\n",blackWidth);

    // set detect white to false

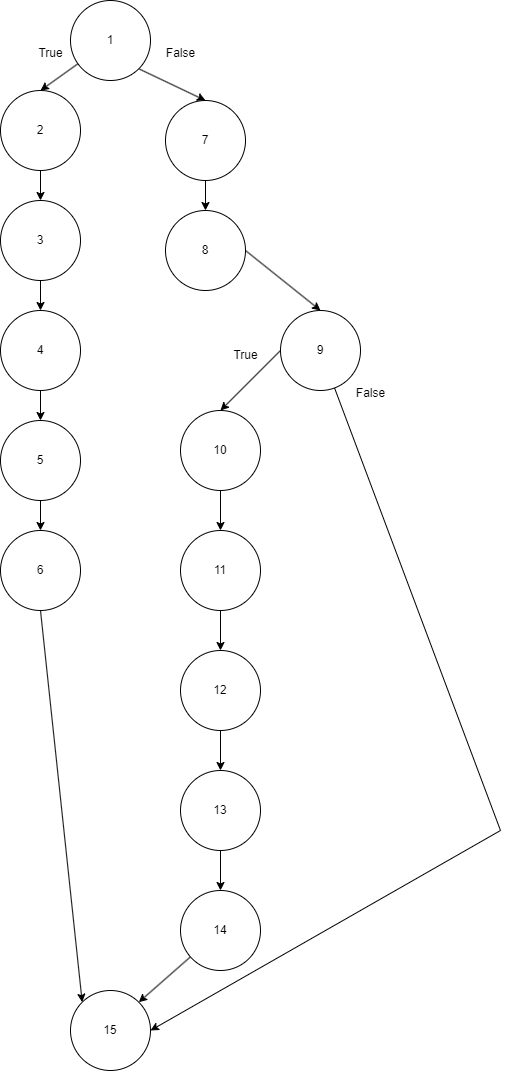
13.    isFail = false

    // set white space to true

14.    isGap = true

}

**Control Flow Graph**:



**Cyclomatic Complexity**:

E-N+2(P) = M

16(Edge) - 15(Node)+2(1) = 3

**Basis path**:

**1**, 2, 3, 4, 5, 6, 15

1, 7, 8, **9**, 10, 11, 12, 13, 14, 15

1, 7, 8, **9**, 15