**Tutorial 04**

1. * The logical operator ‘||’ should be replaced with ‘&&’ to check numNeighbors variable.
   * The assignment operator ‘=’ should be replaced with the equality operator ‘==’.
   * The if-else statement is missing braces ‘{}’ to enclose the blocks of code.

1. * The ‘number’ variable is assigned to 4, and ‘alpha’ variable is assigned to -1.0.
   * The first if statement checks if number is greater than 0. Since greater than 4. The condition is satisfied, the execution continues to the inner if-else block.
   * The inner if statement checks if alpha is greater than 0. When statement not satisfied. Therefore, the execution moves to the else block.
   * Inside the else block, the program encounters the printf statement.
   * After all, there is printf statement that is not part of any conditional blocks.
   * Finally, code print the ‘No, actually, I’m here!’

1. * All possible outcomes:
     + If ‘makesBreakthrough’ is true and ‘doesSignificantWork’ is true, ‘nobelPrizeCandidate’ will be true.

* If ‘makesBreakthrough’ is false and ‘doesSignificantWork’ is true, ‘nobelPrizeCandidate’ will be false.

* If ‘doesSignificantWork’ is false, ‘nobelPrizeCandidate’ will always be false.

1. * If (taxCode == ‘T’) {

Price += taxRate \* price;

}

* if (code == 1) {

    double a, b;

    double sum = a + b;

    printf("Sum of A and B: %.2f\n", sum);

}

* if (currentNumber % 2 != 0) {

    currentNumber = 3 \* currentNumber + 1;

}

else {

    currentNumber = currentNumber / 2;

}

* if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {

    leapYear = true;

}

* if (distance >= 0 && distance <= 100) {

    cost = 5.00;

}

else if (distance > 100 && distance <= 500) {

    cost = 8.00;

}

else if (distance > 500 && distance < 1000) {

    cost = 10.00;

}

else if (distance >= 1000) {

    cost = 12.00;

}