```cpp
SCENARIO("Testing ExamAvg()", "[ExamAvg]")
{
    GIVEN("midterm and final scores")
    {
        double avg; //for storing the average between the midterm and final scores

        double value; //for storing the difference between the midterm and final scores

        WHEN("midterm is 0 and final is 0") //case 1
        {
            avg = ExamAvg(0,0);
            value = 0 - avg;

            THEN("the average needs to be in between -0.00001 and 0.00001")
            {
                REQUIRE(value >= -0.00001 && value <= 0.00001);
            }
        }
        WHEN("midterm is 1 and final is 1") //case 2
        {
            avg = ExamAvg(1,1);
            value = 1 - avg;

            THEN("the average needs to be in between 0.99999 and 1.00001")
            {
                REQUIRE(value >= 0.99999 && value <= 1.00001);
            }
        }
        WHEN("midterm is 10 and final is 10") //case 3
        {
            avg = ExamAvg(10,10);
            value = 10 - avg;

            THEN("the average needs to be in between 9.99999 and 10.00001")
            {
                REQUIRE(value >= 9.99999 && value <= 10.00001);
            }
        }
        WHEN("midterm is 20 and final is 20") //case 4
        {
            avg = ExamAvg(20,20);
            value = 20 - avg;

            THEN("the average needs to be in between 19.99999 and 20.00001")
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                {
                    REQUIRE(value >= 19.99999 && value <= 20.00001);
                }
            }
            WHEN("midterm is 30 and final is 30") //case 5
            {
                avg = ExamAvg(30,30);
                value = 30 - avg;

                THEN("the average needs to be in between 29.99999 and 30.00001")
                {
                    REQUIRE(value >= 29.99999 && value <= 30.00001);
                }
            }
        }
}

SCENARIO("testing FinalAvg()", "[FinalAvg]")
{
    GIVEN("a vector with student's final exam scores")
    {
        double avg; //average between the final exam scores
        vector<Student> student; //turning the Student object into a vector calle
d student
        double value; //for getting the difference

        WHEN("the vector doesn't contain anything") //vector is empty
        {
            avg = FinalAvg(student);

            THEN("the vector returns 0.0 as the average") //this is because the a
verage of 0 is 0
            {
                REQUIRE(value >= -0.00001 && value <= 0.00001);
            }
        }
        WHEN("the vector size is 1 with FinalAvg of 100") //vector contains 1 Stu
dent
        {
            Student Hong( 100, 100);
            student.push_back(Hong);
            value =  FinalAvg(student);

            THEN("the final average should be between 99.99990 and 100.00001")
            {
```

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            REQUIRE(value >= 99.99990 && value <= 100.00001);
        }
    }
    WHEN("the vector size is 4 with FinalAvg of 101.5") //vector contains 1 S
tudent
    {
        Student Tejas( 100, 98); // average = 99
        student.push_back(Tejas);
        Student Venky( 88, 82); // average = 85
        student.push_back(Venky);
        Student Kaiser( 60, 62); // average = 61
        student.push_back(Kaiser);
        value =  FinalAvg(student);

        THEN("the final average should be between 101.49999 and 101.50001")
        {
            REQUIRE(value >= 101.49999 && value <= 101.50001);
        }
    }
  }
}
```