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Description automatically generatedTutorial: 7

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Exercise- 01

#include <stdio.h>

#include <assert.h>//functions

int qualityPoints(float avg);

int main() {

assert(qualityPoints(100) == 4);

assert(qualityPoints(95) == 4);

assert(qualityPoints(90) == 4);

assert(qualityPoints(89) == 3);

assert(qualityPoints(85) == 3);

assert(qualityPoints(80) == 3);

assert(qualityPoints(79) == 2);

assert(qualityPoints(75) == 2);

assert(qualityPoints(70) == 2);

assert(qualityPoints(69) == 1);

assert(qualityPoints(65) == 1);

assert(qualityPoints(60) == 1);

assert(qualityPoints(59) == 0);

assert(qualityPoints(30) == 0);

assert(qualityPoints(0) == 0);

printf("qualityPoints(avg) unit tests passed!!");

return 0;

}

int qualityPoints(float avg) {

if(avg >= 90 && avg <= 100) {

return 4;

}

else if(avg >= 80) {

return 3;

}

else if(avg >= 70) {

return 2;

}

else if(avg >= 60) {

return 1;

}

else {

return 0;

}

}

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Exercise- 02

#include <stdio.h>

#include <math.h>

#include <assert.h>

double hypotenuse(double side1, double side2);

int main(void) {

double side1, side2;

printf("Enter side 1: ");

scanf("%lf", &side1);

printf("Enter side 2: ");

scanf("%lf", &side2);

assert(fabs(hypotenuse(3.0, 4.0) - 5.0) < 0.01);

assert(fabs(hypotenuse(5.0, 12.0) - 13.0) < 0.01);

assert(fabs(hypotenuse(8.0, 15.0) - 17.0) < 0.01);

printf("hypotenuse(side1, side2) unit tests passed!!");

printf("Hypotenuse: %lf", hypotenuse(side1, side2));

return 0;

}

double hypotenuse(double side1, double side2) {

return sqrt(pow(side1, 2.0) + pow(side2, 2.0));

}

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Exercise- 03

#include <stdio.h>

#include <math.h>

#include <assert.h>

double hypotenuse(double side1, double side2);

void testHypotenuse();

int main(void) {

double side1, side2;

printf("Enter side 1: ");

scanf("%lf", &side1);

printf("Enter side 2: ");

scanf("%lf", &side2);

testHypotenuse();

printf("Hypotenuse: %lf", hypotenuse(side1, side2));

return 0;

}

double hypotenuse(double side1, double side2) {

return sqrt(pow(side1, 2.0) + pow(side2, 2.0));

}

void testHypotenuse() {

assert(fabs(hypotenuse(3.0, 4.0) - 5.0) < 0.01);

assert(fabs(hypotenuse(5.0, 12.0) - 13.0) < 0.01);

assert(fabs(hypotenuse(8.0, 15.0) - 17.0) < 0.01);

printf("hypotenuse(side1, side2) unit tests passed!!");

}

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