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Week 4 Exercises

2) Identify the following items in the programming code shown below.

#include <iostream>

using namespace std;

int one; //Global Variables

void hello(int&, double, char); //Function Prototype

int main()

{

int x; //Local Variables(x, y, z)

double y;

char z;

.

hello(x, y, z); //Function Call statement, Formal Parameters(x, y, z)

.

hello(x, y – 3.5, ‘S’); //Function Call Statement, Formal Parameters(x, y – 3.5, ‘S’)

.

}

void hello(int& first, double second, char ch) //Function definition is the whole function

//Actual Parameters(first, second, ch)

//Value Parameters(second, ch)

//Reference Parameters(first)

{

int num; //Local Variables(num, y, u)

double y;

int u;

.

}

Function Heading: void hello(int& first, double second, char ch)

Function body: { int num; double y; int u; …}

4) What is the output for the following program?

a) What is the output if the input is 1?

The output is “Take Programming I.”

b) What is the output is the input is 2?

The output is “Take Programming II.”

c) What is the output if the input is 3?

The output is “Take Invalid input. You must enter a 1 or 2”

d) What is the output if the input is -1?

The output is “Take Invalid input. You must enter a 1 or 2”

6) Write the definition of a void function that takes as input two decimal numbers. If the first number is nonzero, it outputs second number divided by the first number; otherwise, it outputs a message indicating that the second number cannot be divided by the first number because the first number is zero.

#include <iostream>

using namespace std;

void func1(double, double);

int main()

{

double num1, num2;

cout<< "Enter two decimals separated by a space." <<endl;

cin >> num1 >> num2;

cout << endl;

func1(num1, num2);

system("PAUSE");

return 0;

}

void func1(double x, double y)

{

if (x != 0)

cout << x / y << endl;

else if (x ==0)

cout << "Second number cannot be divided by the first number because the first number is zero." << endl;

}

8) Write the definition of a void function that takes as input two parameters of type int, say sum and testScore. The function updates the value of sum by adding the value of testScore. The new value of sum is reflected in the calling environment.

#include <iostream>;

using namespace std;

void func1(int& , int);

int main()

{

int x=0, y=0;

func1(x, y);

cout << "Sum = " << x << endl;

system("PAUSE");

return 0;

}

void func1(int& sum, int testScore)

{

cout << "Enter sum: " <<endl;

cin >> sum;

cout << "Enter Test Score: " << endl;

cin >> testScore;

sum += testScore;

}

12) Consider the program on page 421

a) What is the output if the input is 3 625?

3.00, 625.00, 8.33

625.00, 3.00, 0.00

b) What is the output if the input is 24 1024?

24.00, 1024.00, 1.33

1024.00, 24.00, 0.00

c) What is the output if the input is 0 196?

Enter a nonzero number: