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Week 5 Exercises

2) Consider the following declaration:

double salary[10];

In this declaration, identify the following:

a) The array name

salary

b) The array size

10

c) The data type of each array component

double

d) The range of values for the index of the array

salary[0] – salary[9]

4) Determine whether the following array declarations are valid. Of a declaration is invalid, explain why.

a) int list75;

This is an invalid array declaration. It is not declaring an array in this form but instead is declaring an integer variable named list75. It should be int list[75]; to make an array.

b) int size;

double list[size];

This is an invalid declaration because the program does not know how much memory to allocate to the array. If the int size was initialized to a number than this would work, int size = 10 for example. Better practice would be to make a constant integers, const int SIZE = 100, for example.

c) int test[-10];

The size of the array cannot be a negative number, so this would be an invalid declaration.

d) double sales[40.5]

This is an invalid declaration. The size of the array must be a positive integer.

6) Write C++ statements to do the following:

a) Declare an array alpha of 15 components of type int.

int alpha[15]

b) Output the value of the tenth component of the array alpha.

cout << alpha[9] << endl;

c) Set the value of the fifth component of the array alpha to 35.

alpha[4] = 35;

d) Set the value of the ninth component of the array alpha to the sum of the sixth and thirteenth components of the array alpha.

alpha[8] = alpha[5] + alpha[12];

e) Set the value of the fourth component of the array alpha to three times the value of the eighth component minus 57.

alpha[3] = 3 \* alpha[7] – 57;

f) Output alpha so that five components per line are printed.

for(int i = 0; i < 5; i++)

cout << alpha[i];

cout << endl;

for(i = 5; i < 10; i++)

cout << alpha[i];

cout << endl;

for(i = 10; i < 15; i++)

cout << alpha[i];

cout << endl;

8) Suppose list is an array of five components of type int. What is stored in list after the code on page 550 executes?

2 7 6 11 10

10) Correct the following code so that it correctly initializes and output the elements of the array.

int myList[10] = {0};

for (int i = 0; i < 10; i++)

cin >> myList[i];

for (int i = 0; i < 10; i++)

cout << myList[i] << " ";

cout << endl;