 

**Java Lesson: Arrays
Last Updated: 4/1/2012**

**Objective:** The objective of this lesson is to introduce the student to java arrays of the primitive types. The student will learn how to declare, initialize and loop through arrays of integers, doubles and Strings.

Java offers the ability to store multiple variables using one name and one or more subscripts.

Examples,

int[ ] x = new int [10];

x[0] = 1;

x[1] = 15;

x[2] = 13;

x[3] = 17;

x[4] = -2;

…

x[9] = 12;

You try;

**Example1:** Create an array of 7 integers called grades, assign them 7 different test scores

int [] grades = new int[7];

grades[0] = 95;

grades[1] = 92;

grades[2] = 95;

grades[3] = 81;

grades[4] = 100;

grades[5] = 90;

grades[6] = 91;

NOTE: grades[7] does NOT exist

Arrays can also be set up without specifying the initial size.

int[] scores = {1,5,4,1,6};

NOTE: Once an array size has been determined,

You can use the .length VARIABLE to get the length of an array

String[ ] words = new String [10];

words[0] = “egregious”;

words[1] = “debacle”;

words[2] = “quagmire”;

words[3] = “nihilistic”;

words[4] = “analomy”;

words[5] = “vis a vis”;

words[6] = “boondoggle”;

words[7] = “vociferous”;

words[8] = “sardonic”;

words[9] = “orthogonal”;

for ( int i=0; i < word.length; i++) )

{

 System.out.println(words[i]);

}

**Example 2:** Create an array of doubles of size 5; assign into the 10 elements –1.1, 3.3, -5.5, 7.7, -9.9

double [] nums = new double[5]; or double [] nums = {1.1, 3.3, -5.5, 7.7, -9.9};

nums[0] = 1.1;

nums[1] = 3.3;

nums[2] = -5.5;

nums[3] = 7.7;

nums[4] = -9.9;

Write a while loop to print out the 5 elements to the screen

int i=0;

while (i < 5) { //or while(i < nums.length)

 System.out.println(nums[i]);

 i++;

}

Or

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

 System.out.println(nums[i]);

}

Write a while loop to convert all the numbers to be positive

int i=0;

while (i < 5) { //or while(i < nums.length)

 if (nums[i] < 0) {//check for negatives

 nums[i] = nums[i] \* -1;

 }

 i++;

}

//or

int i=0;

while (i < 5) { //or while(i < nums.length)

 nums[i] = Math.abs(nums[i])

 i++;

}

Loop to see if any of the numbers is equal to 3.3, if so, print out the index

int i=0;

while (i < 5) { //or while(i < nums.length)

 if (nums[i] == 3.3 {//check for target value

 System.out.println(i); //need the index, not the value

 }

 i++;

}

Loop through and find the average of the numbers

double sum=0,

int i=0;

while (i < 5) { //or while(i < nums.length)

 sum = sum + = nums[i];

 i++;

}

System.out.println(sum / 5); //or sum/nums.length