

ICS3U0 – Arrays

Answer the following questions without using JAVA.

- 1) An array to store marks for twenty students has been declared as follows:

```
int[] marks = new int[20];
```

- a) What is the array identifier?
marks
- b) What is the index of the first element in the array?
0
- c) What data type is stored in each element by the declaration?
int
- d) What is the value of marks.length?
20
- e) What is the range of indices of the array?
19

- 2) Write declaration to create arrays that would be appropriate for storing the indicated data.

- a) the number of votes cast for five candidates in an election
`int [] votes = new int[6];`
- b) the answers to a twenty-question true/false quiz
`int [] answers = new int[20];`
- c) average family size in the years 1900 to 2000
`int [] size = new int[100];`

- 3) The table gives atomic masses of the eight lightest elements listed according to atomic number

Atomic Number	1	2	3	4	5	6	7	8
Atomic Mass	1.0	4.0	6.9	9.0	10.8	12.0	14.0	16.0

Suppose that the data in this table were to be represented by the array mass declared by the statement

```
double[] mass = {0, 1, 4, 6.9, 9, 10.8, 12, 14, 16};
```

- a) What is the values of mass[2]?

- 4
- b) What is the value of mass[5]?
10.8
- c) What are the possible values of the indices of the array?
9
- d) What is the identifier and index of the element whose value is 6.9?
3
- e) What data type are the elements?
double
- f) What is the value of mass.length?
9

Complete the following using JAVA

- 4) Declare an int array called 'lottonums' (variable name). Initialize this array with 10 integer elements.

```
int [] lottonums = new int[10];
```

- 5) Declare an array called 'myarray' of type double. Create 'myarray' to have 100 values.

```
double [] myarray = new double[100];
```

- 6) Write a program that stores and displays the classes you are taking at this time. Store all classes in an array before you display your classes.

```
String [] classes = {"Computer  
technology", "Accounting", "Chemistry", "Computer Science"};  
System.out.println(classes[0]);  
System.out.println(classes[1]);  
System.out.println(classes[2]);  
System.out.println(classes[3]);
```

- 7) Declare and create an array of 200 strings, with the variable name 'tvshows'.

```
String[] tvshows = new String[200];
```

- 8) Declare and pre-initialize a character array, called vowels, of all the vowels in the alphabet.

```
String [] vowel = {"A", "E", "I", "O"};  
System.out.println(vowel[0]);  
System.out.println(vowel[1]);  
System.out.println(vowel[2]);  
System.out.println(vowel[3]);
```

9) Create and initialize an array with the following values {23, 32,4, 52, 42}

```
int [] values = {23, 32,4, 52, 42};
```

10)Pre-initialize an int array of the first 10 numbers.

```
{1 3 6 10 15 21 28 36 45 55}
```

```
int [] numbers = {1, 3, 6, 10, 15, 21, 28, 36, 45, 55};
```

11)Declare and create an array of double values of a size specified by the user.

```
Scanner input = new Scanner (System.in);
```

```
System.out.println("Enter size");
```

```
double [] size = {input.nextDouble()};
```