# Final Review (CS140)

- 10 MCQ questions.

**1) Which one of the following options is a valid line of code for displaying the 19 element of myarray?**

a) `System.out.println(myarray[19]);`
b) `System.out.println(myarray(19));`
c) `System.out.println(myarray(18));`
d) `System.out.println(myarray[18]);`

Answer: d

**2) Identify the correct statement for defining an integer array named `numarray` of ten elements.**

a)`int[] numarray = new int[9];`
b) `int[] numarray = new int[10];`
c) `int[10] numarray;`
d) `int numarray[10];`

Answer: b

**3) What is the output of the following code snippet?**

```
int[] myarray = { 10, 20, 30, 40, 50 };
System.out.print(myarray[2]);
System.out.print(myarray[3]);
```

a) 1050
b) 2030
c) 3040
d) 4050

Answer: c

**4)** What is the valid range of index values for an array of size 10?

a) 0 to 10
b) 1 to 9
c) 1 to 10
d) 0 to 9

Answer: d

**5)** what is the output of the given code snippet?

```
int[] mynum = new int[5];
for (int i = 1; i < 5; i++)
{
  mynum[i] = i + 1;
```

```
System.out.print(mynum[i]);
```

a) 2345
b) 1234
c) 1345
d) 1111

Answer: a

**6)** Suppose you wish to write a method that returns the sum of the elements in the partially filled array `myArray`. Which is a reasonable method header?

a) `public static int sum(int[] values)`
b) `public static int sum()`
c) `public static int sum(int[] values, int currSize)`
d) `public static int sum(int[] values, int size, int currSize)`

Answer: C

**7)** Which one of the following statements is a valid initialization of an array named `somearray` of ten elements?

a) `int[] somearray = { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 };`
b) `int somearray[] = { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 };`
c) `int[10] somearray = { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 };`
d) `int somearray[10] = { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 };`

Answer: a

**8)** When an array `myArray` is only partially filled, how can the programmer keep track of the current number of elements?

a) access `myArray.length()`
b) maintain a companion variable that stores the current number of elements
c) access `myArray.currentElements()`
d) access `myArray.length() – 1`

Answer: b

**9)** In a partially filled array, the number of slots in the array that are not currently used is

a) the length of the array minus the number of elements currently in the array
b) the number of elements currently in the array minus the length of the array
c) the length of the array plus the number of elements currently in the array
d) the number of elements currently in the array

Answer: a

# Final Review (CS140)

**10)** Complete the following code snippet with the correct enhanced `for` loop so it iterates over the array without using an index variable.

```
String[] arr = { "abc", "def", "ghi", "jkl" };
_____________________
{
   System.out.print(str);
}
```

a) `for (String str : arr)`
b) `for (str : String arr)`
c) `for (str[] : arr)`
d) `for (arr[] : str)`

Answer: a

- 10 True/False questions.

| N° | Questions | Answer | |
|---|---|---|---|
| | | True | False |
| 1 | Array length = maximum number of elements in array | √ | |
| 2 | For each primitive type there is a **wrapper class** for storing values of that type. | √ | |
| 3 | Double is one of the eight primitive types. double is a class type. | | √ |
| 4 | To remove an element at an index, use the remove method: names.remove(1); | √ | |
| 5 | Ordered array ⇒ *Move all elements following the element to be removed to a upper index* | | √ |
| 6 | The process of checking all elements until you have found a match is called a **linear search** | √ | |
| 7 | To set an element to a new value, use the set method: names.set(2, "Carolyn"); | √ | |
| 8 | ArrayList class manages a sequence of objects | √ | |
| 9 | In the arrays, Index starts at 1 | | √ |
| 10 | Arrays have fixed length | √ | |

# Final Review (CS140)

- 4 short answer questions.

**1) How do you construct an array of 10 strings? An array list of strings?**

Answer:

```
new String[10];
new ArrayList<String>();
```

**2) What is the difference between arrays and ArrayList?**

Answer:

Array: Sequence of values of the same type.
ArrayList : class manages a sequence of objects.

**3) Why would a programmer use a partially filled array of numbers instead of an array list?**

Answer:

You need to use wrapper objects in an ArrayList<Double>, which is less efficient.

**4) What is the difference between ordered array and unordered array?**

Answer:

Ordered array: *Move all elements following the element to be removed to a lower index*

Unordered array: *Overwrite the element to be removed with the last element of the array*

# Final Review (CS140)

- One question to find/fix errors in the sample code.

Consider the following code snippet.What is the errors?

```
double sum = 1;
  for (int i = 1; i < accounts.size(); i--)
  {
    BankAccount account = accounts.get(i);
    sum = sum + account.setBalance();
  }
```

Answer:

```
double sum = 0;
  for (int i = 0; i < accounts.size(); i++)
  {
    BankAccount account = accounts.get(i);
    sum = sum + account.getBalance();
  }
```

- One questions to print the output for the given code.

What is the output of the following code snippet?

```
public class Arraytotal {

	public static void main(String[] args) {

		int[]values={10,20,30,40};
		double total = 0;
		for (double element : values)
		{
		   total = total + element;
		}
		System.out.println(total)   ;
	}

}
```

Answer:

```
100
```

- One simple programming question.

# Final Review (CS140)

Write a java program to create an array to store the value of the counter i*i and I start with value 0

Answer:

```
public class Array1 {

	public static void main(String[] args) {

		double[] values = new double[10];
		for (int i = 0; i < values.length; i++)
		{  values[i] = i * i;
			System.out.println("the value of i= "+i+" , array values[i]="+
			values[i]);

		}

	}


}
```