**Numbers and Strings**

**Workshop 6**

**In this workshop, you’ll learn:**

* Numbers
* String class
* The wrapper classes

## Questions

1. What is the initial capacity of the following string builder?

StringBuilder sb = new StringBuilder("Able was I ere I saw Elba.");

**Answer:** 42

1. Consider the following string:

String hannah = "Did Hannah see bees? Hannah did.";

a. What is the value displayed by the expression hannah.length()?

**Answer:** 32

b. What is the value returned by the method call hannah.charAt(12)?

**Answer:** “e”

c. Write an expression that refers to the letter b in the string referred to by hannah.

**Answer:** hahnah.charAt(15)

**3.** How long is the string returned by the following expression? What is the string?

"Was it a car or a cat I saw?".substring(9, 12)

**Answer:** “car”

**4.** In the following program, called [ComputeResult](http://docs.oracle.com/javase/tutorial/java/data/QandE/ComputeResult.java), what is the value of result after each numbered line executes?

public class ComputeResult {

public static void main(String[] args) {

String original = "software";

StringBuilder result = new StringBuilder("hi");

int index = original.indexOf('a');

/\*1\*/ result.setCharAt(0, original.charAt(0));

/\*2\*/ result.setCharAt(1, original.charAt(original.length()-1));

/\*3\*/ result.insert(1, original.charAt(4));

/\*4\*/ result.append(original.substring(1,4));

/\*5\*/ result.insert(3, (original.substring(index, index+2) + " "));

System.out.println(result);

}

}

**Answer:**

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swear oft

**5.** Show two ways to concatenate the following two strings together to get the string "Hi, mom.":

String hi = "Hi, ";

String mom = "mom.";

**Answer: hi.concat(mom)**

**hi+mom**

**6.** Write a program that computes your initials from your full name and displays them.

Answer: Name.java

**7.** An anagram is a word or a phrase made by transposing the letters of another word or phrase; for example, "software" is an anagram of "wear soft." Write a program that figures out whether one string is an anagram of another string. The program should ignore white space and punctuation.

**Answer:** Anagram.java

**8.** Enter a string from keyboard and make your own functions to be able to answer the below questions:

a- Search within @str string to conclude whether it contains the following words or NOT? "me", "why", "well"

b- "you" word appear in @str how many times?

c- Replace the first character of each word by its UPPER CASE (Hello You Are You And...)

d- Replace the first character of each word by its LOWER CASE, and the last

character of each word by its UPPER CASE (hellO yoU arE ...)

e- Extract @str string to an array of words, then display those words by increasing order.

f- Give a character named c, remove from @str the first character which is equals to c.

g- Count how many words in @str, display “empty string” if @str is an empty string.

h- Print all letters of @str only.

i- Reserve @str.

j- Replace all letter ‘a’ by ‘A’ and ‘b’ by ‘B’.

k- How many upper letters in @str?

Answer: WorkWithString.java