

Java Essentials

Number Format

Per impostare il numero di cifre decimali da visualizzare per un valore double:

```
double d = 3.14159265359;  
System.out.println("the value is : " + String.format("%.2f", d));
```

oppure direttamente:

```
System.out.format("the value is : %.2f", d);
```

Random UUID generation

Per generare degli id pseudo-casuali da 128 bit si può utilizzare la classe UUID del package java.util:

```
String id = UUID.randomUUID().toString();
```

Array

```
// Example 1 - ten elements int array (all zeros):  
int[] array = new int[10];  
  
// Example 2 - six elements initialized int array:  
int[] array2 = {1, 4, 8, 9, 11, -4};  
  
System.out.println(array[5]); // access an element  
System.out.println(array.length); // get array size  
  
// Loop through with a classic for:  
for(int i=0; i<array.length; i++)  
    array[i] = 1+3*i;
```

```
// Loop through with a for-each (DON'T USE IT for instantiating):
for(int value : array)
    System.out.println(value);
```

String comparison

```
String s = "supersballo";
if(s == "supersballo")
    System.out.println("Check if the two references point to the
    same object (does not simply check the equality of the two
    values)");
else if(s.equals("fantayes"))
    System.out.println("This message will not be shown");
else if(s.equalsIgnoreCase("SuperSballo"))
    System.out.println("This message will be shown!");
```

String useful methods

```
// Splitting strings by separator
String s = "pippo pluto paperino pravettoni";
String[] data = s.split(" "); // here the separator is a space

/*
// if you want to split by one or more spaces, you
// have to use a regular expression. Example:

String s = "pippo    pluto paperino  pravettoni";
String[] data = s.split("\\s+");
*/

for(String str : data) {
    System.out.println(str);
}
```

```

// Check if a string contains a substring
if(s.contains("pippo"))
    System.out.println("pippo found!");
else
    System.out.println("Oh no..");

// get ASCII codes of chars
String pippo = "pippo";

// method 1: charAt(index)

for(int j = 0; j<pippo.length(); j++) {
    int k = (int) pippo.charAt(j);
    System.out.println("codice ASCII per "+pippo.charAt(j)+" : "+k);
}

// method 2: toCharArray()

for(char ch: pippo.toCharArray()) {
    int k = (int) ch;
    System.out.println("codice ASCII per "+ch+" : "+k);
}

```

ArrayList

```

ArrayList<String> list = new ArrayList<String>();
list.add("pippo"); // add a new element on bottom (push)
list.add(0, "topolino"); // add a new element on top (unshift)
list.add("pluto");
list.add("paperino");
list.add(2, "minnie"); // add new element at index 2
list.set(1, "donald duck"); // set element at index 1
list.remove(0); // remove element on top (shift)
list.remove(list.size()-1); // remove element on bottom (pop)
list.remove("paperino"); // remove first occurrence of object

```

```

System.out.println("list[1]: " + list.get(1)); // get element
System.out.println("size: " + list.size());

/* Loop with Iterator (hasNext(), next(), remove())
   if you will delete some elements from the list
*/
Iterator it = list.iterator();
while(it.hasNext()) {
    String st = (String) it.next();
    if(st.equals("pluto"))
        it.remove();
}
/* Loop with Enhanced For, but don't alter the list */
for(String s : list)
    System.out.println(s);

list.clear(); // delete all elements

```

LocalDate and Period

```

import java.time.LocalDate;
import java.time.Period;

LocalDate dateBirth = LocalDate.of(year, month, day);
int age = Period.between(dateBirth, LocalDate.now()).getYears();
// get age in years

```

Date to LocalDate conversion

```

import java.time.LocalDate;
import java.util.Date;

```

```
Date date = new Date();
```

```
LocalDate date = LocalDate.ofInstant(date.toInstant(),  
ZoneId.systemDefault());
```

Date format example

```
import java.text.SimpleDateFormat;  
import java.util.Date;  
  
new SimpleDateFormat("dd/MM/yyyy HH:mm:ss").format(new Date());
```

LocalDate and LocalDateTime example

```
import java.time.LocalDate;  
import java.time.LocalDateTime;  
import java.time.format.DateTimeFormatter;  
  
// Formatting example with LocalDateTime:  
DateTimeFormatter dtf = DateTimeFormatter.ofPattern("dd/MM/yyyy  
HH:mm:ss");  
  
System.out.println(dtf.format(LocalDateTime.now()));  
  
// Formatting example with LocalDate:  
LocalDate date = LocalDate.of(2005, 4, 10);  
System.out.println(DateTimeFormatter.ofPattern("dd LLLL  
yyyy").format(date)); // will print 10 april 2005
```

Reversing a String

```
StringBuilder sb = new StringBuilder("Che supersballo!");  
System.out.println(sb.reverse()); // reversed string
```

