

# Compte Rendu TP2 Atelier java

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## lab 5:

```
alabh@alabh:~/Projects/java/tp-java/seance2
total 12K
drwxrwxr-x 3 alabh alabh 4.0K Mar 8 18:13 .
drwxrwxr-x 4 alabh alabh 4.0K Mar 8 18:11 ..
drwxrwxr-x 3 alabh alabh 4.0K Mar 8 13:05 com
~/Projects/java/tp-java/seance2 l com/acme/testing 18:19:09
total 24K
drwxrwxr-x 2 alabh alabh 4.0K Mar 8 13:06 .
drwxrwxr-x 5 alabh alabh 4.0K Mar 8 13:06 ..
-rw-rw-r-- 1 alabh alabh 1.5K Mar 8 13:06 PassByExperiment.java
-rw-rw-r-- 1 alabh alabh 2.5K Mar 8 13:06 TestConversionService.java
-rw-rw-r-- 1 alabh alabh 871 Mar 8 13:06 TestMyDate.java
-rw-rw-r-- 1 alabh alabh 1.4K Mar 8 13:06 TestOrders.java
~/Projects/java/tp-java/seance2 javac com/acme/testing/TestConversionService.java 18:19:27
~/Projects/java/tp-java/seance2 java com.acme.testing.TestConversionService 18:19:40
37.1954
0.58124
30000
40000
1763.7
13.94844
16.97542
-----
37.19540023803711
40000
40000.0
30000
4000
122000
52.84
1781.337
12.6804
15.432200000000002
-----
3.26172852E16
3.261728368641728E16
-----
1912276048
1234567890000
~/Projects/java/tp-java/seance2 18:21:33
```

### 3.1.2:

The compiler complains because the types of arguments passed to functions don't match the types of arguments: the compiler doesn't convert double to a float for example because a double may be bigger than a float type can handle.

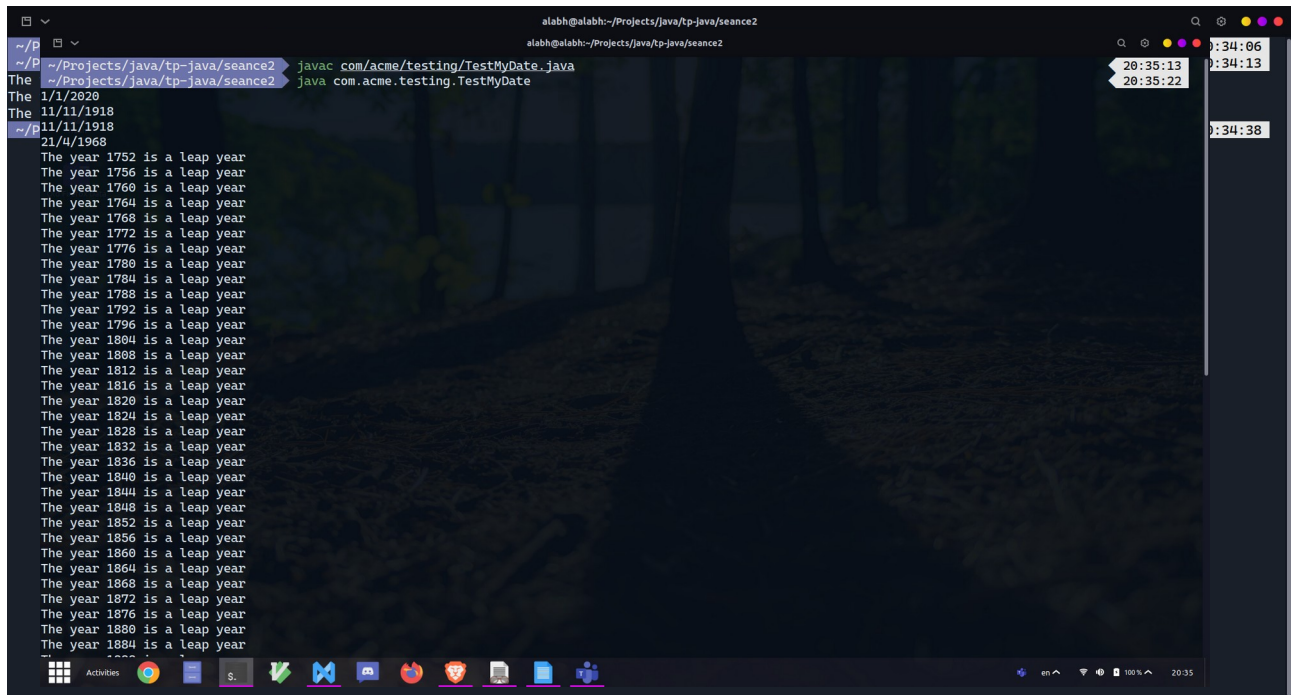
### 3.3:

the compiler can cast implicitly sometimes when the conversion is safe: from an int to a long or a float to a double.

### 3.4.3:

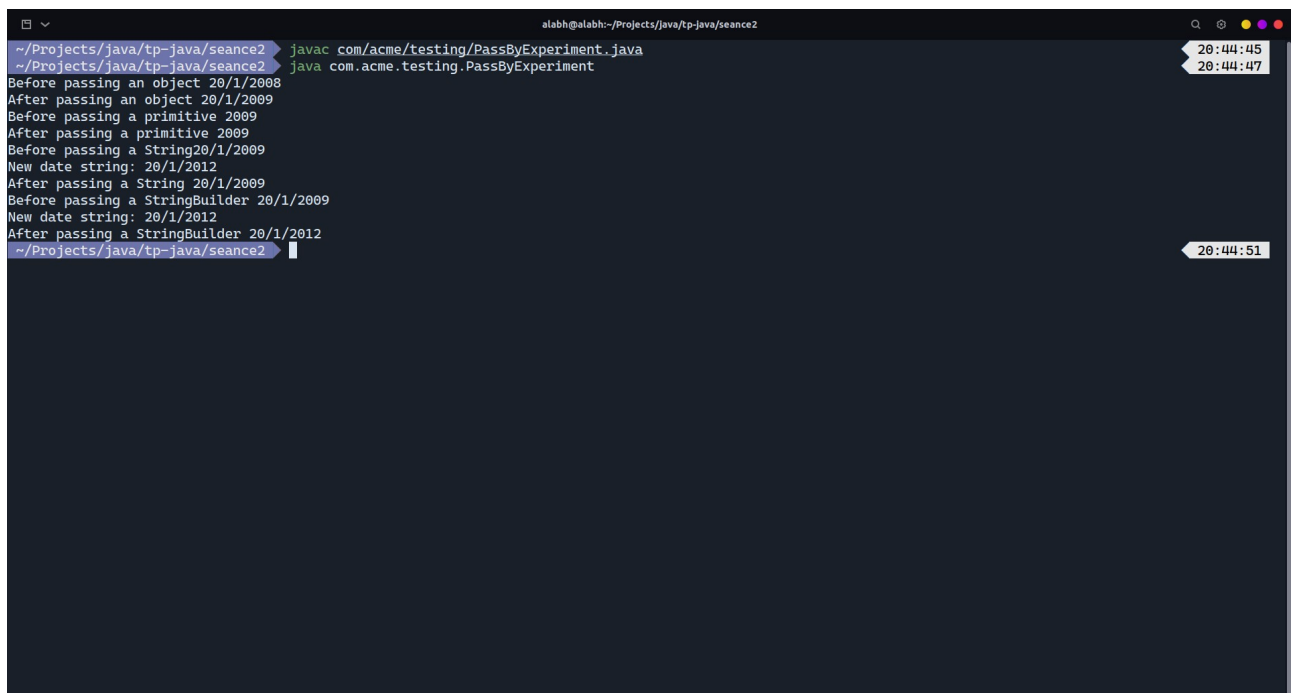
Working with floats rather than double reduces the precision of the calculations because float is a 32bits type and double is a 64bits type. Same with Long and ints.

## Lab 6:



```
alabh@alabh:~/Projects/java/tp-java/seance2
~/P ~/Projects/java/tp-java/seance2 javac com/acme/testing/TestMyDate.java
~/P ~/Projects/java/tp-java/seance2 java com.acme.testing.TestMyDate
The 1/1/2020
The 11/11/1918
~/P 11/11/1918
21/4/1968
The year 1752 is a leap year
The year 1756 is a leap year
The year 1760 is a leap year
The year 1764 is a leap year
The year 1768 is a leap year
The year 1772 is a leap year
The year 1776 is a leap year
The year 1780 is a leap year
The year 1784 is a leap year
The year 1788 is a leap year
The year 1792 is a leap year
The year 1796 is a leap year
The year 1804 is a leap year
The year 1808 is a leap year
The year 1812 is a leap year
The year 1816 is a leap year
The year 1820 is a leap year
The year 1824 is a leap year
The year 1828 is a leap year
The year 1832 is a leap year
The year 1836 is a leap year
The year 1840 is a leap year
The year 1844 is a leap year
The year 1848 is a leap year
The year 1852 is a leap year
The year 1856 is a leap year
The year 1860 is a leap year
The year 1864 is a leap year
The year 1868 is a leap year
The year 1872 is a leap year
The year 1876 is a leap year
The year 1880 is a leap year
The year 1884 is a leap year
...
```

## lab 7:



```
alabh@alabh:~/Projects/java/tp-java/seance2
~/Projects/java/tp-java/seance2 javac com/acme/testing/PassByExperiment.java
~/Projects/java/tp-java/seance2 java com.acme.testing.PassByExperiment
Before passing an object 20/1/2008
After passing an object 20/1/2009
Before passing a primitive 2009
After passing a primitive 2009
Before passing a String 20/1/2009
New date string: 20/1/2012
After passing a String 20/1/2009
Before passing a StringBuilder 20/1/2009
New date string: 20/1/2012
After passing a StringBuilder 20/1/2012
~/Projects/java/tp-java/seance2
```

Primitives are passed by value to functions in java that's why any modifications in the function don't alter the original variable. Objects are passed by reference therefore modifying the arguments from functions will modify the original object's state. It's not the case for strings because strings are immutable objects. That's why we have to work with StringBuilder when we want to modify and work with strings.

## Lab 8:

```
alabh@alabh:~/Projects/java/tp-java/seance2
~/Projects/java/tp-java/seance2 java com.acme.testing.TestMyDate
1/1/1900
11/11/1918
11/11/1918
21/4/1968
Invalid Date:
Attempting to create a non-valid date 13/40/-1
~/Projects/java/tp-java/seance2
```

```
alabh@alabh:~/Projects/java/tp-java/seance2
~/Projects/java/tp-java/seance2 javac com/acme/testing/TestOrders.java
~/Projects/java/tp-java/seance2 java com.acme.testing.TestOrders
10 ea. Anvil for Wile E Coyote
125 ea. Balloon for Bugs Bunny
The tax Rate is currently: 0.05
The tax for 3000.0 is: 150.0
The tax for this order is: 100.0
The tax for this order is: 50.0
The tax Rate is currently: 0.06
The tax for 3000.0 is: 180.0
The tax for this order is: 120.0
The tax for this order is: 60.0
bonus:
1 ea. Anvil for Road Runner
The total bill for: 10 ea. Anvil for Wile E Coyote is 2000.0
The tax for this order is: 60.0
The total bill for: 125 ea. Balloon for Bugs Bunny is 1040.0
test negative quantity:
Attempting to set the quantity to a value less than or equal to zero
~/Projects/java/tp-java/seance2
```