

Observing sorting behavior under Linux

NB all observations are independent, one situation does not impact an other one (after one "export" command has been tried, the terminal is closed and a new one opened). All tests start from a Ubuntu system (9.10) defined as French (default locale is "fr_FR.UTF-8").

Tables - C

ls -l	sort	Nautilus
000	aaa	000
001	eee	0aa
0aa	zzz	001
111	èèè	111
AAA	ééé	AAA
_aa	AAA	_aa
_bb	000	_bb
aaa	001	aaa
eee	0aa	eee
zzz	111	zzz
èèè	_aa	èèè
ééé	_bb	ééé

Table - "fr_FR.UTF-8"

ls -l	sort	Nautilus
000	aaa	000
001	eee	0aa
0aa	ééé	001
111	èèè	111
_aa	zzz	_aa
aaa	AAA	aaa
AAA	000	AAA
_bb	001	_bb
eee	0aa	eee
ééé	111	ééé
èèè	_aa	èèè

ls -l	sort	Nautilus
zzz	_bb	zzz

Observation ls -l

```
olivier@L-etranger:~$ ls --version
```

```
ls (GNU coreutils) 7.4
```

```
olivier@L-etranger:~/try$ export LC_COLLATE=C
```

```
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
```

```
LC_COLLATE=C
```

```
olivier@L-etranger:~/try$ ls -l
```

```
total 0
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 000
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 001
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 0aa
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 111
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:54 AAA
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _aa
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _bb
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 aaa
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 eee
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 zzz
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 èèè
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 ééé
```

```
olivier@L-etranger:~/try$ export LC_COLLATE="fr_FR.UTF-8"
```

```
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
```

```
LC_COLLATE=fr_FR.UTF-8
```

```
olivier@L-etranger:~/try$ ls -l
```

```
total 0
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 000
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 001
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 0aa
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 111
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _aa
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 aaa
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:54 AAA
```

```

-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _bb
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 eee
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 ééé
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 èèè
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 zzz
olivier@L-etranger:~/try$ export LANG=
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
LC_COLLATE="POSIX"
olivier@L-etranger:~/try$ ls -l
total 0
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 000
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 001
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 0aa
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 111
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:54 AAA
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:24 _aa
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:24 _bb
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 aaa
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 eee
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 zzz
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 ??????
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 ??????
olivier@L-etranger:~/try$ export LC_COLLATE=POSIX
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
LC_COLLATE=POSIX
olivier@L-etranger:~/try$ ls -l
total 0
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 000
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 001
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 0aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 111
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:54 AAA
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _bb
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 aaa

```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 eee
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 zzz
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 èèè
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 ééé
```

Observation sort

```
olivier@L-etranger:~$ sort --version
```

```
sort (GNU coreutils) 7.4
```

```
olivier@L-etranger:~/try$ export LC_COLLATE=C
```

```
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
LC_COLLATE=C
```

```
olivier@L-etranger:~/try$ ls -l | sort
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 aaa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 eee
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 zzz
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 èèè
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 ééé
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:54 AAA
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 000
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 001
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 0aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 111
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _bb
total 0
```

```
olivier@L-etranger:~/try$ export LC_COLLATE="fr_FR.UTF-8"
```

```
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
LC_COLLATE=fr_FR.UTF-8
```

```
olivier@L-etranger:~/try$ ls -l | sort
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 aaa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 eee
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 ééé
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 èèè
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 zzz
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:54 AAA
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 000
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 001
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 0aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 111
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _bb
total 0
```

```
olivier@L-etranger:~/try$ export LANG=
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
LC_COLLATE="POSIX"
```

```
olivier@L-etranger:~/try$ ls -l | sort
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 aaa
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 eee
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 zzz
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 èèè
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:06 ééé
-rw-r--r-- 1 olivier olivier 0 Oct  4 21:54 AAA
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 000
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 001
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 0aa
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:23 111
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:24 _aa
-rw-r--r-- 1 olivier olivier 0 Oct  4 22:24 _bb
total 0
```

```
olivier@L-etranger:~/try$ export LC_COLLATE=POSIX
olivier@L-etranger:~/try$ locale | grep LC_COLLATE
LC_COLLATE=POSIX
```

```
olivier@L-etranger:~/try$ ls -l | sort
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 aaa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 eee
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 zzz
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 èèè
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:06 ééé
-rw-r--r-- 1 olivier olivier 0 2010-10-04 21:54 AAA
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 000
```

```
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 001
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 0aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:23 111
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _aa
-rw-r--r-- 1 olivier olivier 0 2010-10-04 22:24 _bb
total 0
```

Observation Nautilus

```
olivier@L-etranger:~$ nautilus --version
```

```
GNOME nautilus 2.28.1
```

```
System started with LANG=fr_FR.UTF-8 (no .gnomerc):
```

```
000
```

```
0aa
```

```
001
```

```
111
```

```
_aa
```

```
aaa
```

```
AAA
```

```
_bb
```

```
eee
```

```
ééé
```

```
èèè
```

```
zzz
```

```
System started with LANG= in .gnomerc: (Indeed Nautilus is in English, locale shows LC_COLLATE="POSIX")
```

```
000
```

```
0aa
```

```
001
```

```
111
```

```
AAA
```

```
_aa
```

```
_bb
```

```
aaa
```

```
eee
```

```
zzz
```

èèè

ééé

System started with export LC_COLLATE=C in .gnomerc: (locale shows LC_COLLATE=C)

000

0aa

001

111

AAA

_aa

_bb

aaa

eee

zzz

èèè

ééé

System started with export LC_COLLATE=POSIX in .gnomerc: (locale shows LC_COLLATE=POSIX)

000

0aa

001

111

AAA

_aa

_bb

aaa

eee

zzz

èèè

ééé

ASCII = POSIX = C correct ordering

According to [Opengroup.org](http://opengroup.org): "Conforming systems shall provide a POSIX locale, also known as the C locale. The behavior of standard utilities and functions in the POSIX locale shall be as if the locale was defined via the localedef utility with input data from the POSIX locale tables in Locale Definition. (...) The POSIX locale can be specified by assigning to the appropriate environment variables

the values "C" or "POSIX". (...) # This is the POSIX locale definition for the LC_COLLATE category. # The order is the same as in the ASCII codeset.”.

character	ASCII code
0	48
1	49
A	65
–	95
a	97
b	98
e	101
z	122

ASCII
000
001
0aa
111
AAA
_aa
_bb
aaa
bbb
eee
zzz

Links

https://bugzilla.gnome.org/show_bug.cgi?id=458707 : comments 1 from André Klapper, 3 from Jürg Billeter, 5 from Alexander Larsson (sept 2007) are wrong.

Rather bug https://bugzilla.gnome.org/show_bug.cgi?id=355152.