

COMMAND LINE SPECIFICATION

for GCAL version 8

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If GCAL is started without arguments, it will open window for user interface.
When GCAL is started with command line arguments, it will not show any window and will run just for processing arguments and then exits.

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1. INTRODUCTION

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Request for additional information in output requires reworked structure of the command line for GCAL application. Functionality is the the same, but form of command line is NOT compatible with previous version. Therefore little adjustment to existing usage of gcal in console mode is required.

Structure of command line is more structured, simpler and easier to understand. It allows simpler usage of application.

Each command line is divided into two parts:

- 1) name of program (in this case gcal.exe)
- 2) list of arguments

List of arguments consists from either pairs of strings, or single strings. If string in argument is starting with character - (minus) then program takes this as value specificator and next string is taken as value of this specificator.

More will say example:

```
gcal.exe -R calendar -L 47N50;70E20 -N "Some Location" -SG 1-10-2008 EC 30 -O out.xml
```

-R is value specificator
calendar is value

-L is value specificator
47N50;70E20 is value
-SG is value specificator
1-10-2008 is value

etc.

2. VALUE SPECIFICATOR

=====

What are possible values of specificator?

-R Request command for this session
-L Location contains latitude and longitude
-TZ Time Zone contains timezone value for location
-N Name of location string, name of location
-SG Start Gregorian date contains starting date in gregorian epoch
-SV Start Vaisnava date contains starting date in Gaurabda epoch
-EG End Gregorian date contains ending date in gregorian epoch
-EV End Vaisnava date contains ending date in Gaurabda epoch
-EC End Count count of days calculated
-DST Daylight Saving Time name of the DST system
-O Output file name for output file

Of course, these specificators are NOT used every time all together. They are used specifically for given request. More about specific usage for each request is in the next chapter.

3. REQUEST DESCRIPTION

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3.1 Calendar Calculation

General usage format is:

```
gcal.exe -R calendar -L <location> -N <loc_name> (-SG|-SV) <start_date> (-EG|-EV|-EC)
<end_date> [-DST] <dst-system> -O <out_file>
```

Note that specificator -SG and -SV cannot be used simultaneously. Also -EG, -EV and -EC cannot be used in this way. But it is possible to use -SG with -EV, or -SV with -EG, or -SG with -EC.

Example:

```
gcal.exe -R calendar -L 47N20;70E30 -N "Location A" -TZ 5:30 -SG 1-10-2008 -EC 30 -O
"out.xml"
```

explanation: for latitude 47N20, longitude 50E30 and timezone 5:30
calculates from date October 1, 2008 for 30 days, result writes into
file out.xml

```
gcal.exe -R calendar -L 47N20;70E30 -N "Location A" -TZ 5:30 -SG 1-10-2008 -EG 30-11-2008 -O "out.xml"
```

explanation: for latitude 47N20, longitude 50E30 and timezone 5:30
calculates from date October 1, 2008 until November 30, 2008,
result writes into file out.xml

```
gcal.exe -R calendar -L 47N20;70E30 -N "Location A" -TZ 5:30 -SV Pratipat-K-Narayana-500 -EG 30-11-2008 -O "out.xml"
```

explanation: for latitude 47N20, longitude 50E30 and timezone 5:30
calculates from date Pratipat, Krsna Paksa, Narayana Masa, Gaurabda 500
until November 30, 2008, result writes into file out.xml.

This last example is significant. It IS possible to combine various ways
in specifying date range, but we must be sure, that starting date is
preceeding end date. Otherwise gcal will return no results (it will finish
succesfully, without error, but also without results)

3.2 Sankranti Calculation

```
gcal.exe -R sankranti -L <location> -N <loc_name> (-SG|-SV) <start_date> (-EG|-EV|-EC) <end_date> -O <out_file>
```

Usage is the same as for calendar request.

3.3 Naksatra Calculation

```
gcal.exe -R naksatra -L <location> -N <loc_name> (-SG|-SV) <start_date> (-EG|-EV|-EC) <end_date> -O <out_file>
```

Usage is the same as for calendar request.

This is replacing old commands naksatra and gnaksatra in previous version
of gcal.

3.4 Gaurabda Calendar calculation

This request is for simplified usage of gcal console application.

```
gcal.exe -R gcalendar -L <location> -N <loc_name> -SG <start_date> -O <out_file>
```

-Sg (start date) can be just year, no need for entering month or day.

Example

```
gcal.exe -R gcalendar -L 1N20;10W20 -N "No Location" -SG 2008 -O "out.txt"
```

If you will enter complete date for -SG tag, gcal will take only year, and

and day and month will ignore. Then it calculates first day of Gaurabda year for given Gregorian year.

3.5 Tithi calculation with Gaurabda spec

```
gcal.exe -R gtithi -L <location> -N <loc_name> -SV <start_date> -EV <end_date> -O <output_file>
```

Example

```
gcal.exe -R gtithi -L 1N20;10W20 -N "No Location" -SV pratipat-k-visnu-520 -EV pratipat-k-madhusudana-520 -O "out.xml"
```

3.6 Appearance Day calculation

```
gcal.exe -R appday -L <location> -N <loc_name> -SG <start_date> -ST <start_time> -O <output_file>
```

3.7 Tithi Calculation

```
gcal.exe -R tithi -L <location> -N <loc_name> [-SG|-SV] <start_date> -O <output_file>
```

3.8 First Day of Year calculation

```
gcal.exe -R firstday -L <location> -N <loc_name> -SG <start_date> -O <output_file>
```

3.9 Next Celebration calculation

```
gcal.exe -R next -L <location> -N <loc_name> -SG <start_date> -SV <find_tithi> -O <output_file>
```

Example

We want to calculate when to celebrate Pratipat Tithi in Gaura Paksa of Visnu Masa which should occur after 5th of July 2010. Location will be Delhi. This will be command line:

```
gcal.exe -R next -L 28N40;77E13 -N "Delhi, India" -SG 5-6-2010 -SV pratipat-g-visnu-500 -O "example_1.xml"
```

Date given in tag -SV is given with year, but for calculation this year will be ignored, since we are calculating celebration of that event.

4. FORMAT OF VALUES

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Each value has specific format, which is described in this chapter.

4.1 Location

Location has two values - latitude and longitude - separated by delimiter ';'. Order of this values is specified by their usage. Gcal will recognize that N and S are delimiters for latitude, whereas E and W are delimiters for longitude.

So both formats are acceptable:

47N00;50E30 and also 50E30;47N00

It is also possible to use floating point numbers in specification of latitude and longitude, but in this case the order is specified: first value is longitude and second is latitude.

So value

50.5;47.0

is recognized as longitude 50E30 and latitude 47N00

4.2 Name of location

This value is not mandatory, but is it for better information for user, who will read result of this calculation. It provides human readable name for location.

Name of the location should be enclosed in quotes.

Example

"Vrindavan, India"

"Delhi [India]"

4.3 Timezone

Examples

value	interpreted as
-------	----------------

5:30	+5:30
------	-------

5.5	+5:30
-----	-------

-10:00	-10:00
--------	--------

-7.75	-7:45
-------	-------

4.4 Date given in gregorian epoch

This applies to specifiers -SG and -EG.

Date in gregorian format has 3 components:

- date
- month
- year

Components of date are separated by '-' or '/'.

It is possible to enter incomplete date. In this case values for particular component of date are set as default.

Examples

value	interpreted as
1-10-2008	October 1, 2008
1-may-2007	May 1, 2008
3-2008	March 1, 2008 (day is not entered, value 1 is default)
2010	January 1, 2008 (day and month not entered, value 1 is default)

4.5 Date given in gaurabda epoch

This applies to specifiers -SV and -EV.

Date in gaurabda format has 4 components:

- tithi
- paksa
- masa
- year

Components of date are separated by '-' or '/'.

It is possible to enter incomplete date. In this case values for particular component of date are set as default.

Examples

value	interpreted as
pratipat-g-visnu-520	Pratipat Tithi, Gaura Paksa, Visnu Masa, Year 520
k-madhusudana-510	Pratipat Tithi, Krsna paksa, Madhusudana Masa, 510
sridhara-525	Pratipat Tithi, Krsna Paksa, Sridhara Masa, 525
530	Pratipat, Krsna Paksa, Visnu Masa, 530
1-0-1-520	Pratipat, Krsna Paksa, Visnu Masa, 520

Values for tithi component:

number text

- 1 pratipat (default)
- 2 dvitiya
- 3 tritiya
- 4 caturti
- 5 pancami
- 6 sasti

- 7 saptami
- 8 astami
- 9 navami
- 10 dasami
- 11 ekadasi
- 12 dvadasi
- 13 trayodasi
- 14 caturdasi
- 15 purnima or amavasya

Values for paksa component

number text

- 0 krsna (default)
- 1 gaura

Values for masa component

number text

- 1 visnu (default)
- 2 madhusudana
- 3 trivikrama
- 4 vamana
- 5 sridhara
- 6 hrsikesa
- 7 padmanabha
- 8 damodara
- 9 kesava
- 10 narayana
- 11 madhava
- 12 govinda
- 13 purusottama

4.6 Count of days

This applies to specificator -EC.
Contains number of days.
Correct values are in the range 1..84000

4.7 Output file name

File name should be enclosed in quotes.

"oot.xml"
"c:\public\output.xml"

If output file name is not specified, then output is redirected to standard output.

4.8 DST system

DST system is specified by international standard string.

Examples

"America/New_York"

"Asia/Calcuta"

"Europe/Prague"

... etc.....

Possible values are defined here:

<http://download.geonames.org/export/dump/>

Revision History

DATE	CHANGE / UPDATE
23 Oct 2008	Initial version of new console app usage

Other information available from

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