cedargrove_dst_adjuster

A CircuitPython helper to adjust North American Standard Time (xST) to Daylight Saving Time (DST).

Author(s): JG for Cedar Grove Studios

Implementation Notes

Hardware:

Software and Dependencies:

Adafruit CircuitPython firmware for the supported boards: https://circuitpython.org/downloads

adjust_dst(*datetime*)

Converts North American Standard Time (xST) to Daylight Saving Time (DST). Input to this function is a structured time object in xST. The function returns a structured time object adjusted to a DST value if appropriate and a flag indicating the DST adjustment was made. The helper cannot correctly detect DST for a structured time object that is encoded as DST.

Parameters:

- **datetime** – The Standard Time structured time input value. Can be any structured time value within the specified date calculation range of CircuitPython, currently January 1, 2000 00:00:00 to January 19, 2038 03:14:07. No default value.

Example:

```
import time
from cedargrove_dst_adjuster import adjust_dst

# Today's date: 11/01/2020 00:00 Standard Time (xST)
datetime = time.struct_time((2020,11,1,0,0,0,6,0,-1))

# Check datetime and adjust if DST
adj_datetime, is_dst = adjust_dst(datetime)

if is_dst:
    flag_text = "DST"
else:
    flag_text = "xST"

# Print the submitted time
print("     {}/{}/{} {:02}:{:02}:{:02}  week_day={}".format(
      datetime.tm_mon, datetime.tm_mday, datetime.tm_year,
      datetime.tm_hour, datetime.tm_min, datetime.tm_sec,
      datetime.tm_wday))

# Print the adjusted time
print("{}: {}/{}/{} {:02}:{:02}:{:02}  week_day={}".format(flag_text,
      adj_datetime.tm_mon, adj_datetime.tm_mday, adj_datetime.tm_year,
      adj_datetime.tm_hour, adj_datetime.tm_min, adj_datetime.tm_sec,
      adj_datetime.tm_wday))
```

Example Output:

```
# for 11/1/2020 00:00 xST input; first Sunday of November 01:00 DST
code.py output:
     11/1/2020 00:00:00  week_day=6
DST: 11/1/2020 01:00:00  week_day=6
```

```
# for 11/1/2020 01:00 xST input; first Sunday of November 02:00 DST
# falls back to 01:00 xST
code.py output:
     11/1/2020 01:00:00  week_day=6
xST: 11/1/2020 01:00:00  week_day=6
```