Assignment 1

Test if the function works.

```
PJM onpeak 2018A
hours:  4080
PJM offpeak 2018A
hours:  4680
PJM flat 2018A
hours:  8760
PJM 2x16H 2018A
hours:  1760
PJM 7x8 2018A
hours:  2920
PJM onpeak 2018Q2
hours:  1024
PJM offpeak 2018Q2
hours:  1160
PJM flat 2018Q2
hours:  2184
PJM 2x16H 2018Q2
hours:  432
PJM 7x8 2018Q2
hours:  728
PJM onpeak 2018Mar
hours:  352
PJM offpeak 2018Mar
hours:  391
PJM flat 2018Mar
hours:  743
PJM 2x16H 2018Mar
hours:  144
PJM 7x8 2018Mar
hours:  247
PJM onpeak 2018-2-3
hours:  0
PJM offpeak 2018-2-3
hours:  24
PJM flat 2018-2-3
hours:  24
PJM 2x16H 2018-2-3
hours:  16
PJM 7x8 2018-2-3
hours:  8
```

get_hours(iso, peak_type, period) function works well.

Test with EnergyGPS data.

```
CAISO flat 2023Jan
hours:  744
CAISO onpeak 2023Jan
hours:  400
CAISO offpeak 2023Jan
hours:  344
CAISO flat 2023Feb
hours:  672
CAISO onpeak 2023Feb
hours:  384
CAISO offpeak 2023Feb
hours:  288
CAISO flat 2023Mar
hours:  743
CAISO onpeak 2023Mar
hours:  432
CAISO offpeak 2023Mar
hours:  311
CAISO flat 2023Apr
hours:  720
CAISO onpeak 2023Apr
hours:  400
CAISO offpeak 2023Apr
hours:  320
CAISO flat 2023May
hours:  744
CAISO onpeak 2023May
hours:  416
CAISO offpeak 2023May
hours:  328
CAISO flat 2023Jun
hours:  720
CAISO onpeak 2023Jun
hours:  416
CAISO offpeak 2023Jun
hours:  304
CAISO flat 2023Jul
hours:  744
CAISO onpeak 2023Jul
hours:  400
CAISO offpeak 2023Jul
hours:  344
CAISO flat 2023Aug
hours:  744
```

```
CAISO onpeak 2023Aug
hours:  432
CAISO offpeak 2023Aug
hours:  312
CAISO flat 2023Sep
hours:  720
CAISO onpeak 2023Sep
hours:  400
CAISO offpeak 2023Sep
hours:  320
CAISO flat 2023Oct
hours:  744
CAISO onpeak 2023Oct
hours:  416
CAISO offpeak 2023Oct
hours:  328
CAISO flat 2023Nov
hours:  721
CAISO onpeak 2023Nov
hours:  400
CAISO offpeak 2023Nov
hours:  321
CAISO flat 2023Dec
hours:  744
CAISO onpeak 2023Dec
hours:  400
CAISO offpeak 2023Dec
hours:  344
```

Results match the EnergyGPS data.

Test consistency of results.

```
ERCOT offpeak 2020A
annually hours:  4672
total quarterly hours:   4672
ERCOT offpeak 2020Q1
quarterly hours:  1159
total monthly hours:  1159
ERCOT offpeak 2020Q2
quarterly hours:  1160
total monthly hours:   1160
ERCOT offpeak 2020Q3
quarterly hours:  1168
total monthly hours:   1168
ERCOT offpeak 2020Q4
quarterly hours:  1185
total monthly hours:   1185
```

```
ERCOT offpeak 2020Jan
monthly hours:  392
total daily hours:  392
ERCOT offpeak 2020Feb
monthly hours:  376
total daily hours:  376
ERCOT offpeak 2020Mar
monthly hours:  391
total daily hours:  391
ERCOT offpeak 2020Apr
monthly hours:  368
total daily hours:  368
ERCOT offpeak 2020May
monthly hours:  424
total daily hours:  424
ERCOT offpeak 2020Jun
monthly hours:  368
total daily hours:  368
ERCOT offpeak 2020Jul
monthly hours:  376
total daily hours:  376
ERCOT offpeak 2020Aug
monthly hours:  408
total daily hours:  408
ERCOT offpeak 2020Sep
monthly hours:  384
total daily hours:  384
ERCOT offpeak 2020Oct
monthly hours:  392
total daily hours:  392
ERCOT offpeak 2020Nov
monthly hours:  401
total daily hours:  401
ERCOT offpeak 2020Dec
monthly hours:  392
total daily hours:  392
```
Results are consistent.