New Maple Commands This Week

This week, we'll take a look at some Maple commands that will allow us to work with calendar dates.

Be sure to type `with(Finance):` since these commands use the Finance package in Maple.

- `DayCount(Date1,Date2);` Counts the number of days that has elapsed between the two given dates.

  Example: Count the number of days since Elvis Presley was born (The King was born on January 8, 1935, but you probably already knew that). Here are two ways of entering dates- We'll assume that today is Feb 12, 2014.

  ```
  DayCount("January 8, 1935","Feb-12-2014");
  ```

- `AdvanceDate(date, number of days);` You can probably guess what this does.

  Example: What day will it be N days from today? To be more specific, find the date that is 1000 days from Feb 12, 2014:

  ```
  AdvanceDate("Feb-12-2014",1000);
  ```

- One last commands that is useful in a lot of situations: The command that produces a sequence: `seq`. Some examples of what it is and how it works- This command is very helpful when you want to construct data.

  ```
  #Print the square of the integers from 1 to 5:
  seq(i^2,i=1..5);
  #List integers from 0 to 100 in multiples of 10:
  seq(0..100,10);
  ```

- Here are some things you can do with the tickmarks of a plot:

  - Plot $y = \sin(x)$ for x between -10 and 10. Use 6 tickmarks on the $x-$axis and 10 tickmarks on the $y-$axis:

    ```
    plot(sin(x),x=-10..10,tickmarks=[6,10]);
    ```

  - Plot $y = \sin(x)$, for x between -6 and 6. Label the $x-$axis for each maximum as A, B, C, etc. The line break is for readability. In this case, we use the default markings for the $y-$axis.

    ```
    plot(sin(x),x=-6..6,tickmarks=[[-3*Pi/2="A", -Pi/2="B", Pi/2="C",
         3*Pi/2="D"],default]);
    ```

- What does the following snippet of code do? The line breaks are for readability only.

```
with(Finance):

H:=[seq(3*i=AdvanceDate("Jan-30-2013",3*i),i=-3..3)];

plot([100*cos(x/5),100*sin(x/3)],x=-10..10,y=-100..100,
    tickmarks=[ H, default],legend=["Plot 1","Plot2"],
    labels=["x-axis","y-axis"]);
```