Module 15 — Formatting: Activities

1. Create the mortgage program from the lecture.

2. Create the table from the lecture.

3. Create a table for arcsin and arccos for the parameters x = 0.00, x=0.05, x=0.10, … up to x=1.00. The functions arcsin and arccos are implemented in the Python math module as math.asin and math.acos. The numbers should line up such that the decimal points are standing above each other. On the right there is a small excerpt.

```
   x arcsin arccos
0.15  0.151  1.420
0.20  0.201  1.369
0.25  0.253  1.318
0.30  0.305  1.266
```

4. Create a program that writes a file containing a list of values {x, arcsin(x)}. The file needs to be formatted so that it can be pasted and copied into Mathematica. With other words, the argument-value pairs are enclosed in curly brackets and separated by commas. The whole array is enclosed by curly brackets. The first and the last line obviously need to be generated separately.

```
{
  {0.15, 0.151},
  {0.20, 0.201},
  {0.25, 0.253}
}
```

5. Download the file "avocado.cvs" from the Kaggle data set that contains the Avocado prices in the US. The first column contains an identifier, the second column the date, the third column the average price, the third-last the type (conventional or organic) and the last one the region. Create a program that takes these data and creates a new file with the date, the average price, the type, and the region for the 2015-11-01 date. Here is how the new file should look: