11. TECHNOLOGY CORNER

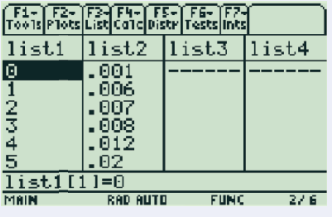
ANALYZING RANDOM VARIABLES ON THE CALCULATOR

TI-Nspire instructions in Appendix B; HP Prime instructions on the book's Web site.

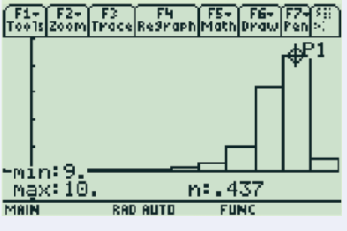
Let's explore what the calculator can do using the random variable X = Apgar score of a randomly selected newborn.

TI-89

1. Start by entering the values of the random variable in L1/list1 and the corresponding probabilities in L2/list2.



2. To graph a histogram of the probability distribution:
   - Set up a statistics plot with Xlist: L1/list1 and Freq: L2/list2.
   - Adjust your window settings as follows: Xmin = −1, Xmax = 11, Xscl = 1, Ymin = −0.1, Ymax = 0.5, Yscl = 0.1.
   - Press GRAPH (◆ F3 on the TI-89).



3. To calculate the mean and standard deviation of the random variable, use one-variable statistics with the values in L1/list1 and the probabilities (relative frequencies) in L2/list2.
   - In the Statistics/List Editor, press F4 (Calc) and choose `1-Var Stats...` Use the inputs List: list1 and Freq: list2.