**STAT 40001/STAT 50001 Statistical Computing Fall 2022**

**Lab-15**

1. Thirteen Honda Accord are chosen to study the gas mileage. Below is the mpg for these vehicles.

27 26 31 30 30 28 26 24 30 30 23 30 23

Perform a test to see whether the data is coming from a normal distribution.

1. An article at Mobilize.org reported that the median credit-card balance for undergraduate students was $1770 for those who carried a balance from month to month. A professor at a community college believes that the median credit-card balance of students at his college is different than $1770. To test this hypothesis, he obtains a random sample of 20 students enrolled at the college who carry a credit-card balance from month to month and asks them to disclose their credit-card debt. The results of the survey are presented in Table 3 in dollars. Do the data indicate that the median credit-card debt of students at the professor's college differs from $1770 at the α=0.05 level of significance?

|  |  |  |  |
| --- | --- | --- | --- |
| 6000 | 870 | 1530 | 1660 |
| 1060 | 1790 | 1630 | 3180 |
| 2180 | 2370 | 1800 | 2170 |
| 1210 | 410 | 1720 | 1270 |
| 570 | 1050 | 2320 | 1120 |

1. The exec.pay data in UsingR library contains data on salaries of CEOs at 199 top companies in the United States. The amount are in $10,000s. Do a sign test to determine whether the median pay is more than $220,000.