**Activity Sheet**

The following Aviation data are provided by airline A. The data contains information on the passengers traveling from Melbourne to Sydney on a weekly base. We like to extract some useful marketing information for this data set.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Passenger | Money spend on ticket(Quantitative, Ratio) | SEX (Qualitative, categorical) | Satisfaction(Qualitative, ordinal) | Age (Quantitative,  could be interval) |
| 1 | 678 | M | satisfied | 24 |
| 2 | 202 | F | satisfied | 23 |
| 3 | 747 | F | satisfied | 23 |
| 4 | 739 | M | very satisfied | 23 |
| 5 | 381 | F | very satisfied | 25 |
| 6 | 460 | F | very satisfied | 23 |
| 7 | 484 | M | very satisfied | 25 |
| 8 | 674 | M | very satisfied | 25 |
| 9 | 561 | M | very satisfied | 21 |
| 10 | 459 | F | not satisfied | 22 |
| 11 | 614 | M | not satisfied | 19 |
| 12 | 131 | F | not satisfied | 19 |
| 13 | 382 | M | not satisfied | 20 |
| 14 | 768 | M | very satisfied | 24 |
| 15 | 725 | M | very satisfied | 22 |
| 16 | 311 | M | satisfied | 19 |
| 17 | 337 | F | satisfied | 18 |
| 18 | 764 | M | satisfied | 23 |
| 19 | 175 | M | satisfied | 23 |
| 20 | 624 | F | satisfied | 20 |
| 21 | 494 | F | satisfied | 25 |
| 22 | 692 | F | satisfied | 19 |
| 23 | 443 | F | satisfied | 20 |
| 24 | 594 | F | satisfied | 24 |
| 25 | 677 | F | satisfied | 25 |
| 26 | 163 | M | satisfied | 20 |
| 27 | 157 | M | satisfied | 19 |
| 28 | 133 | M | satisfied | 20 |
| 29 | 602 | M | satisfied | 20 |
| 30 | 267 | M | satisfied | 24 |
| 31 | 121 | M | satisfied | 23 |
| 32 | 242 | M | satisfied | 21 |
| 33 | 671 | M | satisfied | 25 |
| 34 | 562 | F | not satisfied | 21 |
| 35 | 345 | F | not satisfied | 21 |
| 36 | 337 | M | not satisfied | 22 |
| 37 | 211 | M | not satisfied | 19 |
| 38 | 761 | M | not satisfied | 18 |
| 39 | 69 | M | not satisfied | 24 |
| 40 | 637 | M | very satisfied | 22 |
| 41 | 707 | M | very satisfied | 22 |
| 42 | 418 | M | very satisfied | 23 |
| 43 | 307 | M | very satisfied | 20 |
| 44 | 719 | M | satisfied | 18 |
| 45 | 569 | F | satisfied | 21 |
| 46 | 184 | F | satisfied | 19 |
| 47 | 465 | F | satisfied | 19 |
| 48 | 632 | F | satisfied | 23 |
| 49 | 530 | F | satisfied | 24 |
| 50 | 791 | F | satisfied | 22 |
| 51 | 507 | F | satisfied | 24 |
| 52 | 179 | F | satisfied | 23 |
| 53 | 96 | F | satisfied | 25 |
| 54 | 522 | M | satisfied | 25 |
| 55 | 137 | M | satisfied | 19 |
| 56 | 380 | M | satisfied | 19 |
| 57 | 556 | M | satisfied | 18 |
| 58 | 110 | M | satisfied | 24 |
| 59 | 482 | M | satisfied | 19 |
| 60 | 397 | M | satisfied | 24 |
| 61 | 648 | M | not satisfied | 19 |
| 62 | 537 | M | satisfied | 19 |
| 63 | 691 | M | satisfied | 18 |
| 64 | 441 | M | satisfied | 24 |
| 65 | 701 | M | very satisfied | 19 |
| 66 | 473 | M | satisfied | 22 |
| 67 | 92 | M | satisfied | 21 |
| 68 | 528 | M | very satisfied | 22 |
| 69 | 84 | M | very satisfied | 21 |
| 70 | 237 | M | very satisfied | 20 |
| 71 | 524 | M | very satisfied | 20 |
| 72 | 599 | M | satisfied | 24 |
| 73 | 782 | M | satisfied | 21 |
| 74 | 65 | M | satisfied | 22 |
| 75 | 591 | M | satisfied | 21 |
| 76 | 406 | M | not satisfied | 24 |
| 77 | 255 | M | not satisfied | 23 |
| 78 | 368 | M | not satisfied | 19 |
| 79 | 699 | M | not satisfied | 25 |
| 80 | 620 | M | satisfied | 23 |
| 81 | 441 | M | satisfied | 19 |

1-Take a random sample of size 5

2- Use your Mob calculator to calculate the average of your sample ӯ = (x1+x2+x3+x4+x5)/5

Answer the following questions:

1. What is the estimated average money that an individual spend on ticket?
2. Is there variability in the sales price? If yes how do measure the variability?
3. What is the average age of the passengers for this flight?
4. How do you summaries the sex of the passengers traveling on this flight?
5. How do you judge the quality of this flight?
6. Can I claim the average price of ticket is $500?
7. Is there a relation between amount spend on the ticket and age of the passengers?

Answers:

Qa) must calculate the sample average and use it as an estimate for the average ticket price. However each student will have a different sample average as the sample elements are different for each sample (we call it variability due to “sampling error”).

Qb) yes must use standard deviation or range to measure variability.

Qc) must calculate the sample average and use it as an estimate for the average ticket price. However each student will have a different sample average as the sample elements are different for each sample (we call it variability due to “sampling error”).

Qd) these are categorical data, it is best to use graphical method such as Pie chart or histogram.

Qe) these are categorical data, it is best to use graphical method such as Pie chart or histogram.

Qf) must use hypothesis testing to answer this question.

Qg) must use regression to answer this question.









|  |  |
| --- | --- |
| *Bin* | *Frequency* |
|  |  |
| 65 | 0 |
| 165 | 15 |
| 265 | 17 |
| 365 | 15 |
| 465 | 15 |
| 565 | 8 |
| 665 | 12 |
| 765 | 11 |
| More | 7 |