Homework 1

Q1. What is the mean birth weight for babies of non-smoking mothers?

3.510Kg

Q2. What is the mean birth weight for babies of smoking mothers?

3.134Kg

Q3. What is the mean head circumference for babies of non-smoking mothers?

35.05

Q4. What is the mean gestational age at birth for babies of smoking mothers?

38.95 weeks

Q5. What is the maximum head circumference for babies of non-smoking mothers?

39.00

Q6. What is the minimum gestational age at birth for babies of smoking mothers?

33.0 weeks

Q7. Based on the dataset you have, out of the two, which one would be a better bet:

* Pregnancy period in smoking mothers is shorter
* Pregnancy period in non-smoking mothers is shorter

My answer would be that pregnancy period for smoking mothers is shorter

Q8. Justify the above choice in a few words.

The reason for my answer above is because the median and mean for smoking mothers is shorter than the median and the mean for non smoking

Q9. What is the baby birth weight range for babies of smoking mothers?

2.65

Q10. In your own words describe what the value of the above range for baby's birthweight tells us about smoking versus non-smoking mothers?

The birthweight range for smoking mothers is 2.65. The birthweight range for smoking mothers is 1.9. The birthweight data for smoking mothers has more spread than that for the non-smoking mothers.

Q11. Are head circumference data for babies of smoking mothers normally distributed?

Yes

Q12. What is the significance value for the above on the Shapiro-Wilk test?

0.3724

Q13. What is the standard score (Z-score) for head circumference of 35.05 (X=35.05) in non-smoking mothers?

0

Q14. How are birth weight data of non-smoking mothers skewed?

Approximately symmetric with a score of 0.33

Q15. Are birth weight data for babies of smoking mothers normally distributed?

Yes, the data is normally distributed

Q16. What is the significance value for the above on the Shapiro-Wilk test?

0.9495

Q17. Based on the dataset you have, how confident can you be in saying that a baby's birth weight will be +/- 1 standard deviation from the mean?

68.27%

Q18. Based on the dataset you have, what is the probability that the birth weight for a baby of a smoking mother will be less than 4.2 kg?

0.95

Q19. Are data for length of baby of non-smoking mothers normally distributed?

Yes

Q20. What is the significance value for the above on the Shapiro-Wilk test?

0.07037

Q21. What is the standard score for the length of a baby of 48.5cm for non-smoking mothers?

-1.014cm

Q22. Based on the dataset you have, what is the probability that the length of baby for non-smoking mothers will be more than 55 cm?

0.16%