Answer’s for Lab 5 – Correlations (5 marks)

Student name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student ID \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Chance correlations (1 mark)

½ a mark for correlation matrix (table)

½ a mark for stating which pair is most strongly correlated

| Correlation Matrix | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | |  | | **A** | | **B** | | **C** | | **D** | | **E** | | **F** | | **G** | |
| A |  | Pearson's r |  | — |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | p-value |  | — |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B |  | Pearson's r |  | -0.30304 |  | — |  |  |  |  |  |  |  |  |  |  |  |
|  |  | p-value |  | 0.395 |  | — |  |  |  |  |  |  |  |  |  |  |  |
| C |  | Pearson's r |  | -0.27069 |  | 0.51122 |  | — |  |  |  |  |  |  |  |  |  |
|  |  | p-value |  | 0.449 |  | 0.131 |  | — |  |  |  |  |  |  |  |  |  |
| D |  | Pearson's r |  | -0.13945 |  | 0.35311 |  | 0.58237 |  | — |  |  |  |  |  |  |  |
|  |  | p-value |  | 0.701 |  | 0.317 |  | 0.077 |  | — |  |  |  |  |  |  |  |
| E |  | Pearson's r |  | -0.14752 |  | -0.28039 |  | -0.02937 |  | 0.17489 |  | — |  |  |  |  |  |
|  |  | p-value |  | 0.684 |  | 0.433 |  | 0.936 |  | 0.629 |  | — |  |  |  |  |  |
| F |  | Pearson's r |  | -0.33460 |  | -0.39335 |  | -0.13683 |  | -0.33701 |  | 0.01080 |  | — |  |  |  |
|  |  | p-value |  | 0.345 |  | 0.261 |  | 0.706 |  | 0.341 |  | 0.976 |  | — |  |  |  |
| G |  | Pearson's r |  | 0.19232 |  | -0.11253 |  | 0.14950 |  | -0.57988 |  | 0.01755 |  | -0.02133 |  | — |  |
|  |  | p-value |  | 0.595 |  | 0.757 |  | 0.680 |  | 0.079 |  | 0.962 |  | 0.953 |  | — |  |
|  | | | | | | | | | | | | | | | | | |

# Chance correlations with a larger sample (1 mark)

½ a mark for correlation matrix (table)

½ a mark for stating which pair is most strongly correlated

# Table to summarize measured correlations (3 marks)

*1 mark for table and 2 marks for written answer.*

|  |  |  |
| --- | --- | --- |
| **summary of 21 comparisons** | **N = 10** | **N = 100** |
| minimum of all correlations |  |  |
| maximum of all correlations |  |  |
| range |  |  |

**Short answer question.**

With reference to your table, explain why larger sample sizes are better.