1) An experimenter has investigated the effects of cigarette smoking on learning. Two levels of the smoking variable were used (smoked, did not smoke). There are also two levels of the learning variable (intentional learning and incidental learning).

(A) Practice the two-way between-subjects ANOVA on these data.

(B) Interpret the main effects and interaction of this experiment.

|  |  |  |
| --- | --- | --- |
|   |   | Factor 1 (Smoking) |
|   |   | Smoked | Did not smoke |
| Factor 2 (Learning) | Intentional | 4 | 5 |
| 3 | 4 |
| 5 (M = 4) | 4 (M = 4.2) |
| 4 | 3 |
| 4 | 5 |
| Incidental | 3 | 4 |
| 2 | 3 |
| 2 (M = 2.4) | 4 (M = 3.2) |
| 3 | 3 |
| 2 | 2 |

2) Practice carrying out the one-way ANOVA procedures by calculating the F ratio for these data. The hypothetical scores belowrepresent the responses of subjects in four treatment groups who were given four different driver education programs. The dependent variable is the subjects' errors on their state examinations for drivers' licenses.

|  |  |  |  |
| --- | --- | --- | --- |
| Group 1 | Group 2 | Group 3 | Group 4 |
| 3 | 1 | 1 | 2 |
| 3 | 2 | 1 | 3 |
| 1 | 1 | 3 | 2 |
| 3 | 4 | 1 | 5 |
| 1 | 2 | 2 | 1 |