|  |  |  |
| --- | --- | --- |
| code | -1 | 1 |
| paper height(mm) | 148.5 | 210 |
| width-height ratio | 0.4 | 0.5 |
| leg length(mm) | 0.8 | 1 |



Unwanted noises:

1. The material property of papers may vary from paper to paper.
2. The humidity in air will affect the elasticity of paper.
3. The angle between the finger and a frog will vary in each jumping test.
4. The friction coefficient between frog and finger may change because of sweat on hand.
5. The finger placement on a frog will vary in each jumping test.

Handle the noises: do more replication and randomize the experimental trials to make noises more uniformly and more randomly distributed.



* Day: 6/4 Tuesday
* time: 8:30pm~9:30pm
* place: lab



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| source of variation | SS | DOF | MS | F | F\_0.05 |
| E1 | 85767.01 | 1 | 85767.01 | 81.79793 | 3.984049 |
| E2 | 47278.13 | 1 | 47278.13 | 45.09021 | 3.984049 |
| E3 | 13475.35 | 1 | 13475.35 | 12.85174 | 3.984049 |
| E12 | 54725.35 | 1 | 54725.35 | 52.1928 | 3.984049 |
| error | 70251.04 | 67 | 1048.523 |  |  |
| total | 271496.9 | 71 |  |  |  |



SN ratio: Larger-the-best