In-Class Assignment (Group of Five): One-Quarter Fractional Design (15 minutes) Submit to LEB2

Consider an 25-2 design with the following

results: e = 23.2, ad = 16.9, cd = 23.8, bde = 16.8, ab = 15.5, bc = 16.2, ace = 23.4, abcde = 18.1

● What are the design generators for this design?

I=BDE=ACE=ABCD.

D = BE, E = AC

A=ABDE=CE=BCD

B=DE=ABCE=ACD

C=BCDE=AE=ABD

D=BE=ACDE=ABC

E=BD=AC=ABCD

B=ADE=BCE=CD

AD=ABE=CDE=BC

● What is the design resolution?

Resolution III

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D = BE | E = AC |  |
| e | - | - | - | - | + | 23.2 |
| ad | + | - | - | + | - | 16.9 |
| bde | - | + | - | + | + | 16.8 |
| ab | + | + | - | - | - | 15.5 |
| cd | - | - | + | + | - | 23.8 |
| ace | + | - | + | - | + | 23.4 |
| bc | - | + | + | - | - | 16.2 |
| abcde | + | + | + | + | + | 18.1 |

● Estimate the main and 1st-order effects. Can you determine which effects are significant?

|  |  |  |
| --- | --- | --- |
|  | Contrast | Estimate |
| A | -7.5 | -1.525 |
| B | -20.7 | -5.175 |
| C | 9.1 | 2.275 |
| D | -2.7 | -0.675 |
| E | 9.1 | 2.275 |

จากการคำนวณได้ว่า effect C และ E significant