Which of the following is NOT correct for a 2^k full factorial design matrix $\boldsymbol{X}$?

A $\boldsymbol{X}$ only contains the numbers -1 and 1.

B The sum of each column equals 1.

C The columns of $\boldsymbol{X}$ are orthogonal.

D $\boldsymbol{X}^T\boldsymbol{X}$ is a diagonal matrix.

$$\boldsymbol{Y} = \boldsymbol{X}\boldsymbol{\beta} + \boldsymbol{\varepsilon}, \text{ with } \boldsymbol{\varepsilon} \sim N_n(0, \sigma^2 \boldsymbol{I})$$

$$\widehat{Effect}_j = 2 \cdot \frac{1}{n} \sum_{i=1}^{n} x_{ij} Y_i.$$

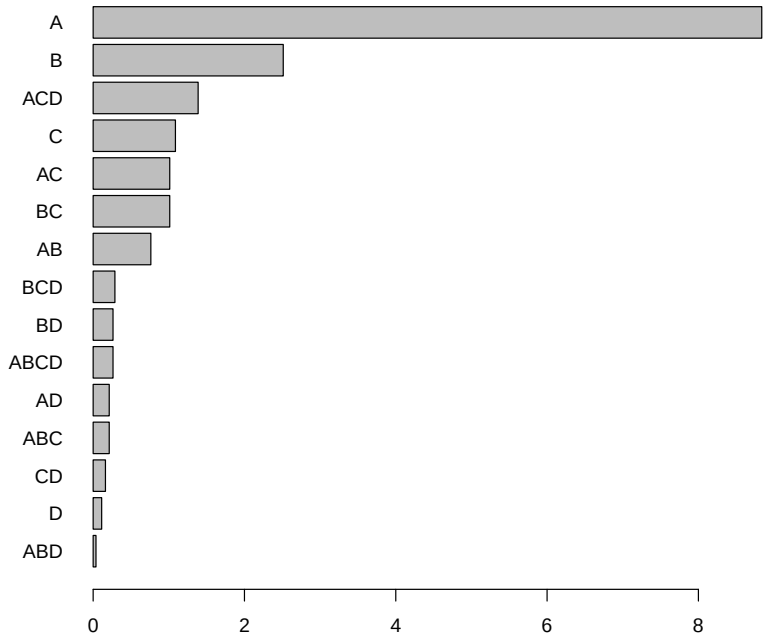
$\text{Var}(\widehat{Effect}_j)$ equals

A σ^2

B $\frac{1}{n}\sigma^2$

C $\frac{2}{n}\sigma^2$

D $\frac{4}{n}\sigma^2$



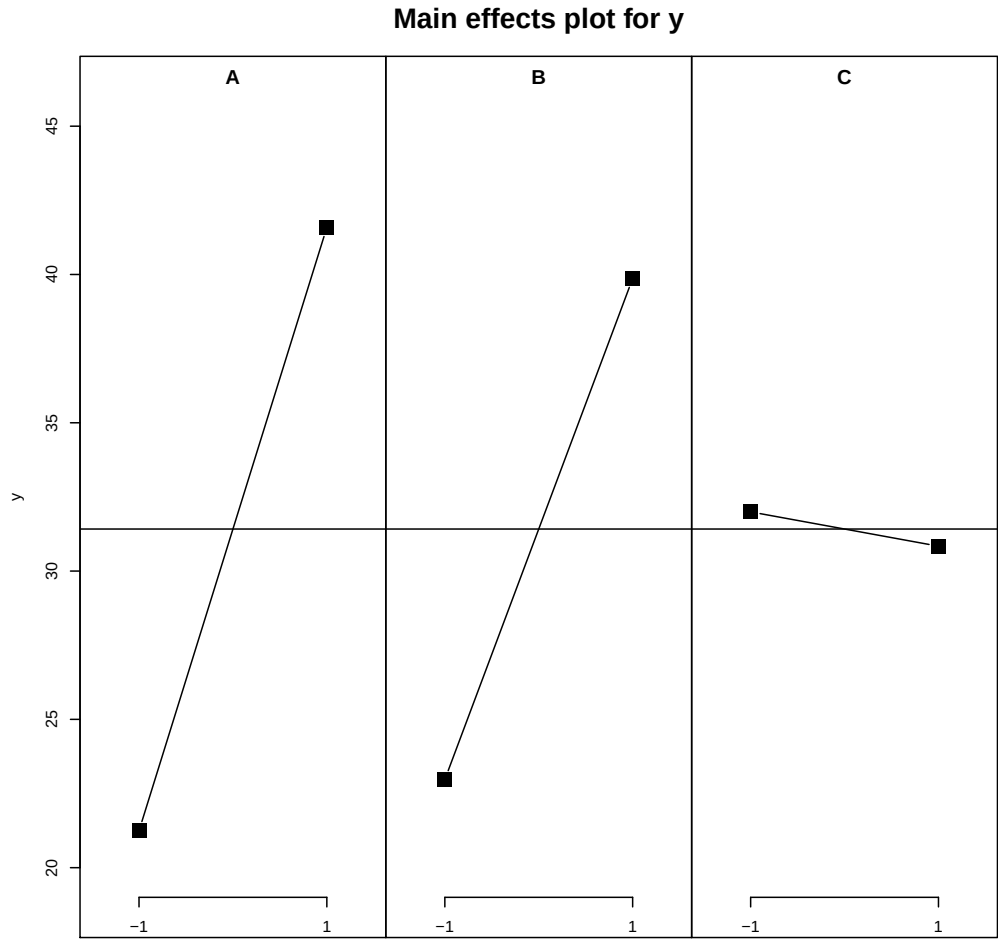
This plot is called

A Main effects plot

B Interaction effects plot

C Pareto plot

D Normal plot



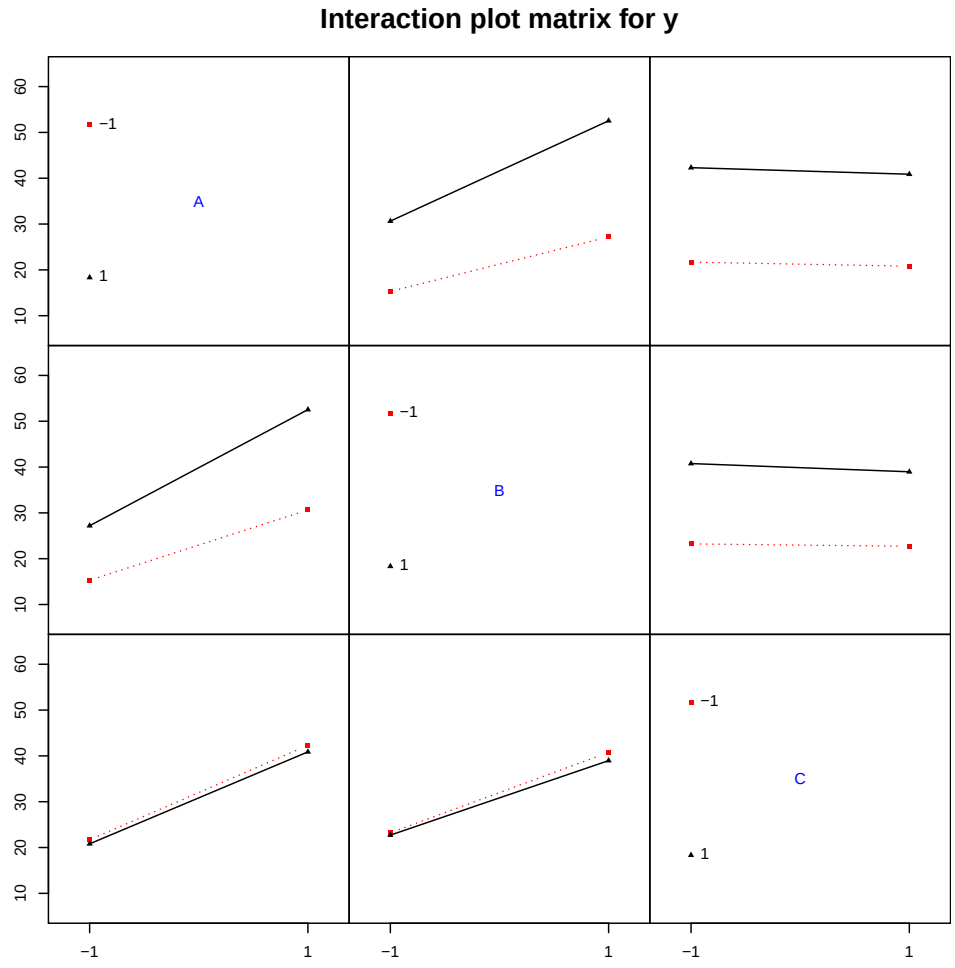
The estimated main effect of A is

A -20

B 0

C 5

D 20



Which of the estimated interaction effects AB, AC, BC is the largest?

A AB

B AC

C BC

Set up a full factorial design in the three variables A, B, C, and use generators: D=AB, E=AC, F=BC, G=ABC. What do you get?

A 2^{7-4}_{III}

B 2^{7-3}_{IV}

C 2^{7-4}_{IV}

D 2^{7-3}_{III}

For a design is of resolution III:

A Main effects are confounded with each other.

B Main effects are confounded with 2-way interactions.

C Main effects are confounded with 3-way interactions.

D Main effects are confounded with 4-way interactions.

Correct?

Are you sure you want to read the correct answers? Maybe try first?

Answers

Correct: BDCDAAB