

piątek, 22 maja 2020

X Y	W	S	All
A	x_{11}	x_{12}	x_{13}
B			
C			
D			
E			x_{53}

$$\sum_{i,j} (x_{ij} - \bar{x})^2 = \sum_{i,j} (x_{i.} - \bar{x})^2 + \sum_{i,j} (x_{.j} - \bar{x})^2 + \sum_{i,j} (x_{ij} - x_{i.} - x_{.j} + \bar{x})^2$$

SSX SSY SSE

14

4

2

8

$$= 3 \cdot \sum_i (x_{i.} - \bar{x})^2 + 5 \sum_j (x_{.j} - \bar{x})^2 + \dots$$

$(\mu_{.1} = \dots = \mu_{.5})$ $F(4, 8)$ $(\mu_{.1} = \dots = \mu_{.3})$ $F(2, 8)$

SSX 4 MSX $F(4, 8)$ $\mu_{.1} = \mu_{.2} = \mu_{.5}$
 SSY 2 MSY $F(2, 8)$ $\mu_{.1} = \mu_{.2} = \mu_{.3}$
 SSE 8 MSE

$$\sum_{i,j} (x_{ij} - \bar{x})^2 = \begin{cases} 1\text{-czyn.} & \sum_{i,j} (x_{i.} - \bar{x})^2 + SSE_1 < \\ & \sum_{i,j} (x_{.j} - \bar{x})^2 + SSE_2 < \end{cases}$$

ANOVA 2-czynn. z powt.

$i = 1, 2 \quad j = 1, 2 \quad k = 1, \dots, 5$

$$\sum_{i,j,k} (x_{ijk} - \bar{x})^2 = \sum_{i,j,k} (x_{i..} - \bar{x})^2 + \sum_{i,j,k} (x_{.j.} - \bar{x})^2 + \sum_{i,j,k} (x_{ij.} - x_{i..} - x_{.j.} + \bar{x})^2 + \sum_{i,j,k} (x_{ijk} - \underline{x_{ij.}})^2$$

SSA SSB SSAB SSE

16

$$\begin{array}{ccccccc}
 & SST_{\text{tot}} & = & SSA & + & SSB & + & SSAB & + & SSE \\
 df & 19 & & 1 & & 1 & & \frac{1}{(I-1)(J-1)} & & 16
 \end{array}$$

$$\begin{array}{l}
 SST_{\text{tot}} = SSA + SSE \\
 \phantom{SST_{\text{tot}}} \\
 \phantom{SST_{\text{tot}}}
 \end{array}$$