Formulas

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Review

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$$\mathbf{F} = \mathbf{G} + \mathbf{H} + \mathbf{I}$$

Total expected income

$$\mathbf{F} = \mathbf{G} + \mathbf{H} + \mathbf{I} = \mathbf{M} + \mathbf{N} + \mathbf{O} + \mathbf{P} + \mathbf{Q} + \mathbf{R} + \mathbf{S} + \mathbf{T} + \mathbf{U} + \mathbf{V} + \mathbf{W} + \mathbf{X} + \mathbf{Y} + \mathbf{Z} + \mathbf{A1} + \mathbf{B1} + \mathbf{C1} + \mathbf{D1} + \mathbf{E1} + \mathbf{F1} + \mathbf{G1} + \mathbf{H1} + \mathbf{I1} + \mathbf{J1} + \mathbf{K1} + \mathbf{L1} + \mathbf{M1} + \mathbf{N1} + \mathbf{O1} + \mathbf{P1} + \mathbf{Q1} + \mathbf{R1} + \mathbf{S1} + \mathbf{T1} + \mathbf{U1} + \mathbf{V1} + \mathbf{W1} + \mathbf{X1} + \mathbf{Y1} + \mathbf{Z1}$$

Expected for a technical intervention

$$\mathbf{G} = \mathbf{M} + \mathbf{N} + \mathbf{O} + \mathbf{P}$$

Meaning (+1)

$$\mathbf{M} + \mathbf{N} + \mathbf{O} + \mathbf{P} = \mathbf{A} + \mathbf{B} + \mathbf{C} + \mathbf{D}$$

Meaning (+2)

$$\mathbf{M} + \mathbf{N} + \mathbf{O} + \mathbf{P} = \mathbf{A} + \mathbf{B} + \mathbf{C} + \mathbf{D} + \mathbf{E} + \mathbf{F} + \mathbf{G} + \mathbf{H}$$

Other sources for an observation in the data set

$$\mathbf{H} = \mathbf{E} + \mathbf{F} + \mathbf{G}$$

Expected for the knowledge of a data point, $i = n$

$$\mathbf{I} = \mathbf{E} + \mathbf{F} + \mathbf{G}$$

Expected for the loss of individual i data points, $i = n$

$$\mathbf{I} = \mathbf{E} + \mathbf{F} + \mathbf{G}$$

Revenue

$$\begin{aligned} \mathbf{J} &= \text{revenue} \quad \mathbf{K} = \text{revenue} \quad \mathbf{L} = \text{revenue} \\ \mathbf{M} &= \text{revenue} \quad \mathbf{N} = \text{revenue} \quad \mathbf{O} = \text{revenue} \\ \mathbf{P} &= \text{revenue} \end{aligned}$$

$$\mathbf{J} = \mathbf{K}$$

$$\mathbf{K} = \mathbf{L} + \mathbf{M} + \mathbf{N}$$

$$\mathbf{M} = \sum_{i=1}^{n} \mathbf{O} = \sum_{i=1}^{n} \mathbf{P} = \sum_{i=1}^{n} \mathbf{Q} = \sum_{i=1}^{n} \mathbf{R} = \sum_{i=1}^{n} \mathbf{S} = \sum_{i=1}^{n} \mathbf{T} = \sum_{i=1}^{n} \mathbf{U} = \sum_{i=1}^{n} \mathbf{V} = \sum_{i=1}^{n} \mathbf{W} = \sum_{i=1}^{n} \mathbf{X} = \sum_{i=1}^{n} \mathbf{Y} = \sum_{i=1}^{n} \mathbf{Z}$$

(were sources services i is, etc.)

$$\mathbf{L} = \mathbf{O}$$

Variables and models

$$\mathbf{AB1} = \mathbf{CD} \quad \mathbf{AC1} = \mathbf{DE} \quad \mathbf{AD1} = \mathbf{EF}$$

$$\mathbf{AE1} = \sum_{i=1}^{n} \mathbf{GH} = \sum_{i=1}^{n} \mathbf{IJ} = \sum_{i=1}^{n} \mathbf{KL} = \sum_{i=1}^{n} \mathbf{MN}$$

$$\mathbf{AF1} = \mathbf{OP} = \mathbf{QR} = \mathbf{ST}$$

$$\mathbf{AG1} = \mathbf{UV} = \mathbf{WX} = \mathbf{YZ}$$

Estimate of the population variance

$$\sigma^2 = \frac{\mathbf{AH1}}{\mathbf{AI1}} = \sigma^2_{\mathbf{J1}} = \frac{\mathbf{AJ1}}{\mathbf{AK1}}$$

Mean, μ (sample mean/population mean) of a random variable

$$\mu = \frac{\mathbf{AL1}}{\mathbf{AM1}}$$

Standard deviation for the population

$$\mathbf{AN1} = \sqrt{\frac{\mathbf{AO1}}{\mathbf{AP1}}}$$

Variance

$$\mathbf{AQ1} = \sqrt{\frac{\mathbf{AR1}}{\mathbf{AS1}}}$$

Hypothesis test of variance

$$\sigma^2 = \frac{\mathbf{AT1}}{\mathbf{AU1}} = \sigma^2_{\mathbf{J1}} = \frac{\mathbf{AV1}}{\mathbf{AW1}}$$

Mean, $\bar{x}$ (sample mean/population mean) of a random variable

$$\bar{x} = \frac{\mathbf{AX1}}{\mathbf{AY1}}$$

$\mathbf{AZ1} = \sum_{i=1}^{n} x^2$ variance of samples

$\mathbf{BA1} = \sum_{i=1}^{n} x^2$ variance of samples

$\mathbf{BB1} = \sum_{i=1}^{n} x^2$ variance of samples

$\mathbf{BC1} = \sum_{i=1}^{n} x^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{BD1}}{\mathbf{BE1}} = \sigma^2 = \frac{\mathbf{BF1}}{\mathbf{BG1}} = \frac{\mathbf{BH1}}{\mathbf{BI1}}$$

$$\sigma^2 = \frac{\mathbf{BJ1}}{\mathbf{BK1}} = \sigma^2 = \frac{\mathbf{BL1}}{\mathbf{BM1}} = \frac{\mathbf{BN1}}{\mathbf{BO1}}$$

$$\sigma^2 = \frac{\mathbf{BP1}}{\mathbf{BQ1}} = \sigma^2 = \frac{\mathbf{BR1}}{\mathbf{BS1}} = \frac{\mathbf{BT1}}{\mathbf{BU1}}$$

$$\sigma^2 = \frac{\mathbf{BV1}}{\mathbf{BW1}} = \sigma^2 = \frac{\mathbf{BX1}}{\mathbf{BY1}} = \frac{\mathbf{BZ1}}{\mathbf{CA1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{CB1}}{\mathbf{CC1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{CD1}}{\mathbf{CE1}}} = \sigma = \sqrt{\frac{\mathbf{CF1}}{\mathbf{CG1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{CH1}}{\mathbf{CI1}}} = \sigma = \sqrt{\frac{\mathbf{CJ1}}{\mathbf{CK1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{CL1}}{\mathbf{CM1}}} = \sigma = \sqrt{\frac{\mathbf{CN1}}{\mathbf{CO1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{CP1}}{\mathbf{CQ1}}} = \sigma = \sqrt{\frac{\mathbf{CR1}}{\mathbf{CS1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{CT1}}{\mathbf{CU1}}} = \sigma = \sqrt{\frac{\mathbf{CV1}}{\mathbf{CW1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{CX1}}{\mathbf{CY1}}} = \sigma = \sqrt{\frac{\mathbf{CZ1}}{\mathbf{DA1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{DB1}}{\mathbf{DC1}}} = \sigma = \sqrt{\frac{\mathbf{DD1}}{\mathbf{DE1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{DF1}}{\mathbf{DG1}}} = \sigma = \sqrt{\frac{\mathbf{DH1}}{\mathbf{DI1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{DJ1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{DK1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{DL1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{DM1}}{\mathbf{DN1}} = \sigma^2 = \frac{\mathbf{DO1}}{\mathbf{DP1}} = \frac{\mathbf{DQ1}}{\mathbf{DR1}}$$

$$\sigma^2 = \frac{\mathbf{DS1}}{\mathbf{DT1}} = \sigma^2 = \frac{\mathbf{DU1}}{\mathbf{DV1}} = \frac{\mathbf{DW1}}{\mathbf{DX1}}$$

$$\sigma^2 = \frac{\mathbf{DY1}}{\mathbf{DZ1}} = \sigma^2 = \frac{\mathbf{EA1}}{\mathbf{EB1}} = \frac{\mathbf{EC1}}{\mathbf{ED1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{EE1}}{\mathbf{EF1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{EG1}}{\mathbf{EH1}}} = \sigma = \sqrt{\frac{\mathbf{EI1}}{\mathbf{EJ1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{EK1}}{\mathbf{EL1}}} = \sigma = \sqrt{\frac{\mathbf{EM1}}{\mathbf{EN1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{EO1}}{\mathbf{EP1}}} = \sigma = \sqrt{\frac{\mathbf{EQ1}}{\mathbf{ER1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{ES1}}{\mathbf{ET1}}} = \sigma = \sqrt{\frac{\mathbf{EU1}}{\mathbf{EV1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{EW1}}{\mathbf{EX1}}} = \sigma = \sqrt{\frac{\mathbf{EY1}}{\mathbf{EZ1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{FA1}}{\mathbf{FB1}}} = \sigma = \sqrt{\frac{\mathbf{FC1}}{\mathbf{FD1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{FE1}}{\mathbf{FF1}}} = \sigma = \sqrt{\frac{\mathbf{FG1}}{\mathbf{FH1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{FI1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{FJ1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{FK1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{FL1}}{\mathbf{FM1}} = \sigma^2 = \frac{\mathbf{FN1}}{\mathbf{FO1}} = \frac{\mathbf{FP1}}{\mathbf{FQ1}}$$

$$\sigma^2 = \frac{\mathbf{FR1}}{\mathbf{FS1}} = \sigma^2 = \frac{\mathbf{FT1}}{\mathbf{FU1}} = \frac{\mathbf{FV1}}{\mathbf{FW1}}$$

$$\sigma^2 = \frac{\mathbf{FX1}}{\mathbf{FY1}} = \sigma^2 = \frac{\mathbf{FZ1}}{\mathbf{GA1}} = \frac{\mathbf{GB1}}{\mathbf{GC1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{GD1}}{\mathbf{GE1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{GF1}}{\mathbf{GG1}}} = \sigma = \sqrt{\frac{\mathbf{GH1}}{\mathbf{GI1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{GJ1}}{\mathbf{GK1}}} = \sigma = \sqrt{\frac{\mathbf{GL1}}{\mathbf{GM1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{GN1}}{\mathbf{GO1}}} = \sigma = \sqrt{\frac{\mathbf{GP1}}{\mathbf{GQ1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{GR1}}{\mathbf{GS1}}} = \sigma = \sqrt{\frac{\mathbf{GT1}}{\mathbf{GU1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{GV1}}{\mathbf{GW1}}} = \sigma = \sqrt{\frac{\mathbf{GX1}}{\mathbf{GY1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{GZ1}}{\mathbf{HA1}}} = \sigma = \sqrt{\frac{\mathbf{HB1}}{\mathbf{HC1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{HD1}}{\mathbf{HE1}}} = \sigma = \sqrt{\frac{\mathbf{HF1}}{\mathbf{HG1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{HH1}}{\mathbf{HI1}}} = \sigma = \sqrt{\frac{\mathbf{HJ1}}{\mathbf{HK1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{HL1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{HM1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{HN1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{HO1}}{\mathbf{HP1}} = \sigma^2 = \frac{\mathbf{HQ1}}{\mathbf{HR1}} = \frac{\mathbf{HS1}}{\mathbf{HT1}}$$

$$\sigma^2 = \frac{\mathbf{HU1}}{\mathbf{HV1}} = \sigma^2 = \frac{\mathbf{HW1}}{\mathbf{HX1}} = \frac{\mathbf{HY1}}{\mathbf{HZ1}}$$

$$\sigma^2 = \frac{\mathbf{IA1}}{\mathbf{IB1}} = \sigma^2 = \frac{\mathbf{IC1}}{\mathbf{ID1}} = \frac{\mathbf{IE1}}{\mathbf{IF1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{IG1}}{\mathbf{IH1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{II1}}{\mathbf{IJ1}}} = \sigma = \sqrt{\frac{\mathbf{IK1}}{\mathbf{IL1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{IM1}}{\mathbf{IN1}}} = \sigma = \sqrt{\frac{\mathbf{IO1}}{\mathbf{IP1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{IQ1}}{\mathbf{IR1}}} = \sigma = \sqrt{\frac{\mathbf{IS1}}{\mathbf{IT1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{IU1}}{\mathbf{IV1}}} = \sigma = \sqrt{\frac{\mathbf{IW1}}{\mathbf{IX1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{IY1}}{\mathbf{IZ1}}} = \sigma = \sqrt{\frac{\mathbf{JA1}}{\mathbf{JB1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{JC1}}{\mathbf{JD1}}} = \sigma = \sqrt{\frac{\mathbf{JE1}}{\mathbf{JF1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{JG1}}{\mathbf{JH1}}} = \sigma = \sqrt{\frac{\mathbf{JI1}}{\mathbf{JJ1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{JK1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{JL1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{JM1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{JN1}}{\mathbf{JO1}} = \sigma^2 = \frac{\mathbf{JP1}}{\mathbf{JQ1}} = \frac{\mathbf{JR1}}{\mathbf{JS1}}$$

$$\sigma^2 = \frac{\mathbf{JT1}}{\mathbf{JU1}} = \sigma^2 = \frac{\mathbf{JV1}}{\mathbf{JW1}} = \frac{\mathbf{JX1}}{\mathbf{JY1}}$$

$$\sigma^2 = \frac{\mathbf{JZ1}}{\mathbf{KA1}} = \sigma^2 = \frac{\mathbf{KB1}}{\mathbf{KC1}} = \frac{\mathbf{KD1}}{\mathbf{KE1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{KF1}}{\mathbf{KG1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{KH1}}{\mathbf{KI1}}} = \sigma = \sqrt{\frac{\mathbf{KJ1}}{\mathbf{KK1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{KL1}}{\mathbf{KM1}}} = \sigma = \sqrt{\frac{\mathbf{KN1}}{\mathbf{KO1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{KP1}}{\mathbf{KQ1}}} = \sigma = \sqrt{\frac{\mathbf{KR1}}{\mathbf{KS1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{KT1}}{\mathbf{KU1}}} = \sigma = \sqrt{\frac{\mathbf{KV1}}{\mathbf{KW1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{KX1}}{\mathbf{KY1}}} = \sigma = \sqrt{\frac{\mathbf{KZ1}}{\mathbf{LA1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{LB1}}{\mathbf{LC1}}} = \sigma = \sqrt{\frac{\mathbf{LD1}}{\mathbf{LE1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{LF1}}{\mathbf{LG1}}} = \sigma = \sqrt{\frac{\mathbf{LH1}}{\mathbf{LI1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{LJ1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{LK1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{LL1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{LM1}}{\mathbf{LN1}} = \sigma^2 = \frac{\mathbf{LO1}}{\mathbf{LP1}} = \frac{\mathbf{LQ1}}{\mathbf{LR1}}$$

$$\sigma^2 = \frac{\mathbf{LS1}}{\mathbf{LT1}} = \sigma^2 = \frac{\mathbf{LU1}}{\mathbf{LV1}} = \frac{\mathbf{LW1}}{\mathbf{LX1}}$$

$$\sigma^2 = \frac{\mathbf{LY1}}{\mathbf{LZ1}} = \sigma^2 = \frac{\mathbf{MA1}}{\mathbf{MB1}} = \frac{\mathbf{MC1}}{\mathbf{MD1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{ME1}}{\mathbf{MF1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{MG1}}{\mathbf{MH1}}} = \sigma = \sqrt{\frac{\mathbf{MI1}}{\mathbf{MJ1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{MK1}}{\mathbf{ML1}}} = \sigma = \sqrt{\frac{\mathbf{MM1}}{\mathbf{MN1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{MO1}}{\mathbf{MP1}}} = \sigma = \sqrt{\frac{\mathbf{MQ1}}{\mathbf{MR1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{MS1}}{\mathbf{MT1}}} = \sigma = \sqrt{\frac{\mathbf{MU1}}{\mathbf{MV1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{MW1}}{\mathbf{MX1}}} = \sigma = \sqrt{\frac{\mathbf{MY1}}{\mathbf{MZ1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{NA1}}{\mathbf{NB1}}} = \sigma = \sqrt{\frac{\mathbf{NC1}}{\mathbf{ND1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{NE1}}{\mathbf{NF1}}} = \sigma = \sqrt{\frac{\mathbf{NG1}}{\mathbf{NH1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{NI1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{NJ1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{NK1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{NL1}}{\mathbf{NM1}} = \sigma^2 = \frac{\mathbf{NN1}}{\mathbf{NO1}} = \frac{\mathbf{NP1}}{\mathbf{NQ1}}$$

$$\sigma^2 = \frac{\mathbf{NR1}}{\mathbf{NS1}} = \sigma^2 = \frac{\mathbf{NT1}}{\mathbf{NU1}} = \frac{\mathbf{NV1}}{\mathbf{NW1}}$$

$$\sigma^2 = \frac{\mathbf{NX1}}{\mathbf{NY1}} = \sigma^2 = \frac{\mathbf{NZ1}}{\mathbf{OA1}} = \frac{\mathbf{OB1}}{\mathbf{OC1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{OD1}}{\mathbf{OE1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{OF1}}{\mathbf{OG1}}} = \sigma = \sqrt{\frac{\mathbf{OH1}}{\mathbf{OI1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{OJ1}}{\mathbf{OK1}}} = \sigma = \sqrt{\frac{\mathbf{OL1}}{\mathbf{OM1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{ON1}}{\mathbf{OO1}}} = \sigma = \sqrt{\frac{\mathbf{OP1}}{\mathbf{OQ1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{OR1}}{\mathbf{OS1}}} = \sigma = \sqrt{\frac{\mathbf{OT1}}{\mathbf{OU1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{OV1}}{\mathbf{OW1}}} = \sigma = \sqrt{\frac{\mathbf{OX1}}{\mathbf{OY1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{OZ1}}{\mathbf{PA1}}} = \sigma = \sqrt{\frac{\mathbf{PB1}}{\mathbf{PC1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{PD1}}{\mathbf{PE1}}} = \sigma = \sqrt{\frac{\mathbf{PF1}}{\mathbf{PG1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{PH1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{PI1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{PJ1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{PK1}}{\mathbf{PL1}} = \sigma^2 = \frac{\mathbf{PM1}}{\mathbf{PN1}} = \frac{\mathbf{PO1}}{\mathbf{PP1}}$$

$$\sigma^2 = \frac{\mathbf{PQ1}}{\mathbf{PR1}} = \sigma^2 = \frac{\mathbf{PS1}}{\mathbf{PT1}} = \frac{\mathbf{PU1}}{\mathbf{PV1}}$$

$$\sigma^2 = \frac{\mathbf{PW1}}{\mathbf{PX1}} = \sigma^2 = \frac{\mathbf{PY1}}{\mathbf{PZ1}} = \frac{\mathbf{QA1}}{\mathbf{QB1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{QC1}}{\mathbf{QD1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{QE1}}{\mathbf{QF1}}} = \sigma = \sqrt{\frac{\mathbf{QG1}}{\mathbf{QH1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{QI1}}{\mathbf{QJ1}}} = \sigma = \sqrt{\frac{\mathbf{QK1}}{\mathbf{QL1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{QM1}}{\mathbf{QN1}}} = \sigma = \sqrt{\frac{\mathbf{QO1}}{\mathbf{QP1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{QQ1}}{\mathbf{QR1}}} = \sigma = \sqrt{\frac{\mathbf{QS1}}{\mathbf{QT1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{QU1}}{\mathbf{QV1}}} = \sigma = \sqrt{\frac{\mathbf{QW1}}{\mathbf{QX1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{QY1}}{\mathbf{QZ1}}} = \sigma = \sqrt{\frac{\mathbf{RA1}}{\mathbf{RB1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{RC1}}{\mathbf{RD1}}} = \sigma = \sqrt{\frac{\mathbf{RE1}}{\mathbf{RF1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{RG1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{RH1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{RI1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{RJ1}}{\mathbf{RK1}} = \sigma^2 = \frac{\mathbf{RL1}}{\mathbf{RM1}} = \frac{\mathbf{RN1}}{\mathbf{RO1}}$$

$$\sigma^2 = \frac{\mathbf{RP1}}{\mathbf{RQ1}} = \sigma^2 = \frac{\mathbf{RR1}}{\mathbf{RS1}} = \frac{\mathbf{RT1}}{\mathbf{RU1}}$$

$$\sigma^2 = \frac{\mathbf{RV1}}{\mathbf{RW1}} = \sigma^2 = \frac{\mathbf{RX1}}{\mathbf{RY1}} = \frac{\mathbf{RZ1}}{\mathbf{SA1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{SB1}}{\mathbf{SC1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{SD1}}{\mathbf{SE1}}} = \sigma = \sqrt{\frac{\mathbf{SF1}}{\mathbf{SG1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{SH1}}{\mathbf{SI1}}} = \sigma = \sqrt{\frac{\mathbf{SJ1}}{\mathbf{SK1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{SL1}}{\mathbf{SM1}}} = \sigma = \sqrt{\frac{\mathbf{SN1}}{\mathbf{SO1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{SP1}}{\mathbf{SQ1}}} = \sigma = \sqrt{\frac{\mathbf{SR1}}{\mathbf{SS1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{ST1}}{\mathbf{SU1}}} = \sigma = \sqrt{\frac{\mathbf{SV1}}{\mathbf{SW1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{SX1}}{\mathbf{SY1}}} = \sigma = \sqrt{\frac{\mathbf{SZ1}}{\mathbf{TA1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{TB1}}{\mathbf{TC1}}} = \sigma = \sqrt{\frac{\mathbf{TD1}}{\mathbf{TE1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{TF1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{TG1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{TH1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{TI1}}{\mathbf{TJ1}} = \sigma^2 = \frac{\mathbf{TK1}}{\mathbf{TL1}} = \frac{\mathbf{TM1}}{\mathbf{TN1}}$$

$$\sigma^2 = \frac{\mathbf{TO1}}{\mathbf{TP1}} = \sigma^2 = \frac{\mathbf{TQ1}}{\mathbf{TR1}} = \frac{\mathbf{TS1}}{\mathbf{TT1}}$$

$$\sigma^2 = \frac{\mathbf{TU1}}{\mathbf{TV1}} = \sigma^2 = \frac{\mathbf{TW1}}{\mathbf{TX1}} = \frac{\mathbf{TY1}}{\mathbf{TZ1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{UA1}}{\mathbf{UB1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{UC1}}{\mathbf{UD1}}} = \sigma = \sqrt{\frac{\mathbf{UE1}}{\mathbf{UF1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{UG1}}{\mathbf{UH1}}} = \sigma = \sqrt{\frac{\mathbf{UI1}}{\mathbf{UJ1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{UK1}}{\mathbf{UL1}}} = \sigma = \sqrt{\frac{\mathbf{UM1}}{\mathbf{UN1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{UO1}}{\mathbf{UP1}}} = \sigma = \sqrt{\frac{\mathbf{UQ1}}{\mathbf{UR1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{US1}}{\mathbf{UT1}}} = \sigma = \sqrt{\frac{\mathbf{UU1}}{\mathbf{UV1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{UW1}}{\mathbf{UX1}}} = \sigma = \sqrt{\frac{\mathbf{UY1}}{\mathbf{UZ1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{VA1}}{\mathbf{VB1}}} = \sigma = \sqrt{\frac{\mathbf{VC1}}{\mathbf{VD1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{VE1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{VF1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{VG1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{VH1}}{\mathbf{VI1}} = \sigma^2 = \frac{\mathbf{VJ1}}{\mathbf{VK1}} = \frac{\mathbf{VL1}}{\mathbf{VM1}}$$

$$\sigma^2 = \frac{\mathbf{VN1}}{\mathbf{VO1}} = \sigma^2 = \frac{\mathbf{VP1}}{\mathbf{VQ1}} = \frac{\mathbf{VR1}}{\mathbf{VS1}}$$

$$\sigma^2 = \frac{\mathbf{VT1}}{\mathbf{VU1}} = \sigma^2 = \frac{\mathbf{VV1}}{\mathbf{VW1}} = \frac{\mathbf{VX1}}{\mathbf{VY1}}$$

σ, standard deviation, is the square root of the variance, and is defined as:

$$\sigma = \sqrt{\frac{\mathbf{VZ1}}{\mathbf{WA1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{WB1}}{\mathbf{WC1}}} = \sigma = \sqrt{\frac{\mathbf{WD1}}{\mathbf{WE1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{WF1}}{\mathbf{WG1}}} = \sigma = \sqrt{\frac{\mathbf{WH1}}{\mathbf{WI1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{WJ1}}{\mathbf{WK1}}} = \sigma = \sqrt{\frac{\mathbf{WL1}}{\mathbf{WM1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{WN1}}{\mathbf{WO1}}} = \sigma = \sqrt{\frac{\mathbf{WP1}}{\mathbf{WQ1}}}$$

σ (sigma)

$$\sigma = \sqrt{\frac{\mathbf{WR1}}{\mathbf{WS1}}} = \sigma = \sqrt{\frac{\mathbf{WT1}}{\mathbf{WU1}}}$$

$$\sigma = \sqrt{\frac{\mathbf{WV1}}{\mathbf{WW1}}} = \sigma = \sqrt{\frac{\mathbf{WX1}}{\mathbf{WY1}}}$$

Hypothesis test of variance

$\sigma^2 = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{WZ1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{XA1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

$\mathbf{XB1} = \sum_{i=1}^{n} (x - \bar{x})^2$ variance of samples

σ^2, standard variance, is the variance of a random variable (or population) or a stochastic process:

$$\sigma^2 = \frac{\mathbf{XC1}}{\mathbf{XD1}} = \sigma^2 = \frac{\mathbf{XE1}}{\mathbf{XF1}}