AIM:- To Utilize R's visualization capabilities for the graphical representation of measure of dispersion, including Range, quartile deviation Standard deviation and variance in a given dutaset.

Software Requirements!

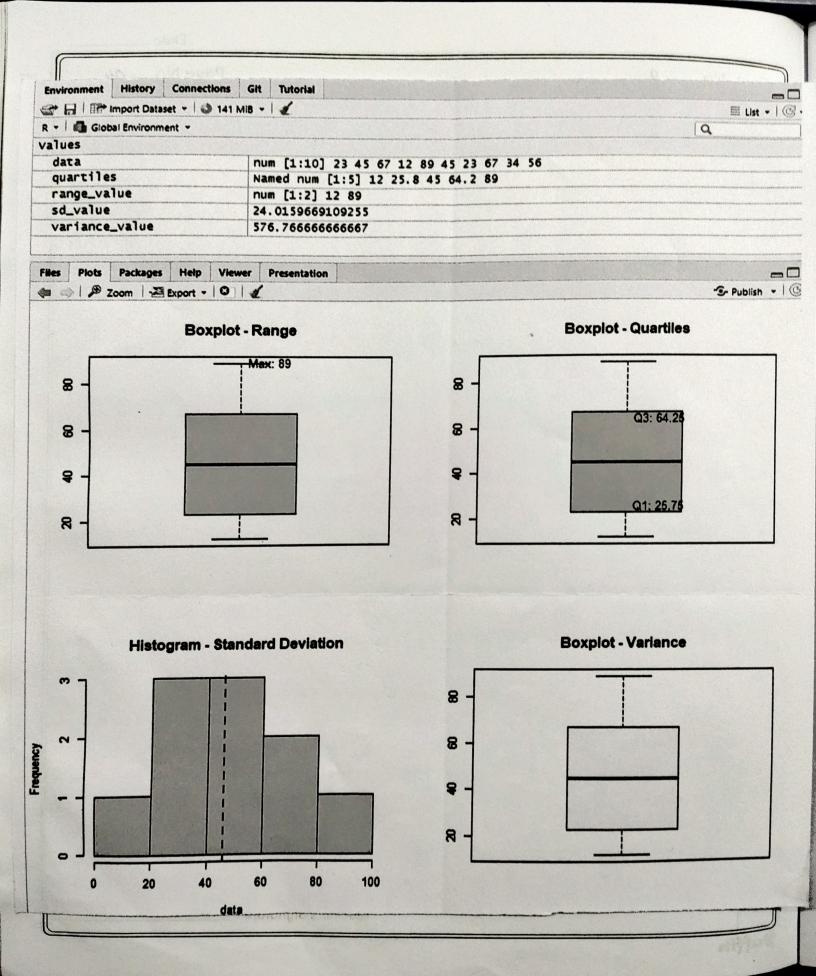
1. R environment installation

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& R Studio Installation.

| AIM: To Wilize R's Visualization capabilities for the graphical |
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| AIM: To Wilize R's Visualization capabilities for the graphical representation of measures of clispersion, including Range, Quartile Deviation, Standard Deviation, and Variance in a given dutaset. |
| Quartile Deviation, Standard Deviation, and Variance in a given |
| dulaset. |
| |
| Software Requirements: |
| 1. R environment installation |
| 2. R Stadio installation. |
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| Introduction:- Measures of dispersion provide insights into the spread or variability of a dataset |
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| into the spread or variability of a dataset |
| |
| In this practical we will leverage. R's powerful virualization compositives to graphically represents measures of dispersion including the range quartile deviation steendard deviation and variance. |
| repobilities to graphically represent measures of dispersion |
| including the range quartile deviation stendard deviation |
| and variance. |
| |
| Vi sualizations enhance our understanding of the spread of data and facilitate companision between different datasets. |
| of data and facilitate comparision between different |
| detasets. |
| |
| Objettives: |
| - Calculate measures of despession using R function |
| - Utilise R's Visualization took to graphically represent the range |
| quartile deviation standard deviation and variance |
| - Interpret and analyze the visualisation to gain |
| instes into the spread of the dataset. |
| Traines Tille the species |
| |
| Teacher's Signature : |



Expt. No.

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| Procedure:- Step1:- Load the dateset. data c (23, 45, 67, 12, 89, 45, 23, 67, 343 56) |
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| Step 1:- Load the dateset. |
| data < c(23, 45, 67, 12, 89, 45, 23, 67, 343 56) |
| |
| Step 2:- Calculate Measures of Dispersion - Use the R's function to Compute range, quartile deviation, Standard deviation, and variance |
| - Use the R's function to compute range, quartile deviation, |
| Standard deviation and variance |
| |
| range_value <- range (data) |
| |
| gder_value <- 19R (data)/2 |
| |
| sd-value < sd (data) |
| |
| variance-value <- var(data) |
| |
| Step 3: - Visualize the measure of dispersion. |
| STOP BY THE PARTY OF THE PARTY |
| boxplot (data, main = "Boxplot of Range", ylab = "value") |
| Still State of the |
| hist I data, main = "Histogram of Data", xlab = "value", col = "lightblue") |

Plot (density (data), main = "Density Plot", xlab="value", col="dakhue")

plot (data, main: "scatterplot of data", xlob="tridex", ylab="value", col="blue", pch=16)

Teacher's Signature :

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| | Doubs plotting using Boxplot and Histogram |
| \dashv | |
| 1 | par (mtrow = 6(2,2)) |
| | boxplot (data, main = "Boxplot Ronge", (al = "loybthlue") |
| | fort (1, range-value (2), parte (max + round lorange-value (2), 2)), pos=4) |
| | text (1, range-value (2), parte ("navi" round (range-value (2), 2)), pos=4) text (1, max (data) +5, parte ("Range:", round (diff (range-value), 2)), col="rect") |
| | |
| | boxplot (data, main = "Boxplot Quartile", col = "Lightgreen") |
| | text(1, quartiles [4], poste ("Qo" round (quartile [4], 2)), pos=4) |
| | text (s, quartile [s], poste ("a," round (quartile [2], 2)), pos- 47 |
| | Jest (1, max (data)+10, posts ("questile Dedication", sound (yeler-mbe, 2)), cel-"be" |
| | Text (1, mas Idata)+10, poste ("questile Dechiation", sound glev.mbe, 2)), cel-be |
| | hist (dota, main = "Histogram - standard deviation", (al = pink" |
| | ablene (v=mean (data), al= "red", (ty=2 lud=2) |
| | deline (v=mean (deta), cal= "red", ty=2 lwd=2) fext (15, 12, paste ("meun", road (mean (deta), 2)), cal= "red") |
| | text (1, max (data)+15, poste ("standard deviation", roud (std. vale, 2)), |
| | col="green") |
| | |
| | boxplot (deta, main = "Boxplot Variance". (ol = "lightyallow") text (1, Variance-value, poste ("variance", round (variance-value, 2)), pos = 4 text (1, men idate) +20, poste l'"variance", round (variance-value, 2)), cal = purple") |
| | text (1, variance-value, poste ("variance", round (variable-value, 2)), pos=4 |
| | test (1, men idata) +20, poste l'avoriance", round (variance-value, 2)), cal = "purple") |
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| | Teacher's Signature : |