

Discovering Statistics Using R – Tasks

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URL linking to GitHub repo for Hello World tutorial

https://github.com/Akila-Selvaraj/Akila_R_Public/blob/main/Hello_World.R

Task 3: What is the level of measurement of the following variables?

- a. The number of downloads of different bands' songs on iTunes.

It is a discrete variable. Number of songs we can download will be a whole number. We cannot download 2.5, 3.8 songs.

- b. The names of the bands that were downloaded.

This is a nominal variable. There will be more than two categories of band that were downloaded.

- c. The position in the iTunes download chart.

It is an ordinal variable. Position in the iTunes has logical order.

- d. The money earned by the bands from the downloads.

This is a continuous variable and ratio too. It is continuous as money varies from small amount to huge amount. Ratio of the money is also possible.

- e. The weight of drugs bought by the bands with their royalties.

This is also continuous variable and ratio. Weight of drugs ranges from few grams to kg and it can be counted. It is ratio too as weight starts from zero and goes on.

- f. The type of drugs bought by the bands with their royalties.

It is a categorical variable as there can be various types of drugs bought by the bands. It is nominal too as there can be more than two categories available in types of drugs.

- g. The phone numbers that the bands obtained because of their fame.

It is categorical and nominal too. Though phone number is a number, it can't be added and it has no order. So, it should be treated as category. It is nominal as there are more categories and no particular order to those.

- h. The gender of the people giving the bands their phone numbers.

It is categorical and binary as the gender of people falls only into two categories, male or female.

- i. The instruments played by the band members.

This is categorical and nominal as there is no order to the instruments and there are more categories of instruments.

- j. The time they had spent learning to play their instruments.

It is a continuous and ratio variable. Time spent varies from zero and time they had spent can be split into ratios.

Task 4: Say I own 857 CDs. My friend has written a computer program that uses a webcam to scan the shelves in my house where I keep my CDs and measure how many I have. His program says that I have 863 CDs. Define measurement error. What is the measurement error in my friend's CD-counting device?

Measurement error also known as observation error is the difference between measured value and the true value. In this example, true value is 857 and measured value is 863. The measurement error is 6 CDs.

Task 5: Sketch the shape of a normal distribution

