

Week 1 – Exercise 1.2

Item 3:

Github Hello world URL –

<https://github.com/veerakoppula/hello-world>

Item 4:

4b. Task 3: What is the level of measurement of the following variables?

1. The number of downloads of different bands' songs on iTunes.
 - It's a discrete measurement. This measure would be a discrete variable because only whole songs can be downloaded, but not partial
2. The names of the bands that were downloaded.
 - Names of the bands would be a nominal measurement. Since these are names any arithmetic operation on the names of bands is not meaningful
3. The position in the iTunes download chart.
 - This would be an ordinal measurement. As the position in the iTunes download chart would show ordering or ranking of the download of songs but would not reflect how many times the downloads happened for each song in the chart.
4. The money earned by the bands from the downloads.
 - Money earned would be a continuous measurement as the money is measured with digits and decimals (money would be USD 1.99 or 2.01). As money earned could be a ratio measurement, as the magnitude of measurement is proportional to the number (as 2.5 USD is twice the 1.25 USD)
5. The weight of drugs bought by the bands with their royalties.
 - Like Money earned above, weight of drugs could be continuous measurement as well as ratio measurement.
6. The type of drugs bought by the bands with their royalties.
 - This measurement could be nominal measurement, as the names are arbitrary (Cannabis, cocaine, Marijuana etc) and there is no way to arithmetically compare them. Types of the drugs can be Categorical as well, that could specify what type of drug is it.

7. The phone numbers that the bands obtained because of their fame.
 - Like type of drug above, phone numbers can be both nominal and categorical measurement. The numbers have a no meaningful arithmetic as one greater than other. Also, these numbers can be categorized as landline, mobile or fax
8. The gender of the people giving the bands their phone numbers.
 - Gender of the people would be a categorical measurement. That would specify the category of the person (male, female or non-specific gender)
9. The instruments played by the band members.
 - Like phone numbers or type of drugs, instruments played by band members would be either a categorical or nominal measurement. There is no arithmetic order, but they could be categorized.
10. The time they had spent learning to play their instruments.
 - Like money earned or weight of drugs bought, time bands spent in training would be a continuous or ratio measurement.

4c. 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 is difference in true or actual value of something and the value calculated or used to represent it. In this above example measurement error is 6 in CD-counting device. We could calculate measurement error in this case as we know the actual value of the number of the CDs.

4d. Task 5: Sketch the shape of a normal distribution, a positively skewed distribution and a negatively skewed distribution.

