FACTOR PLOT

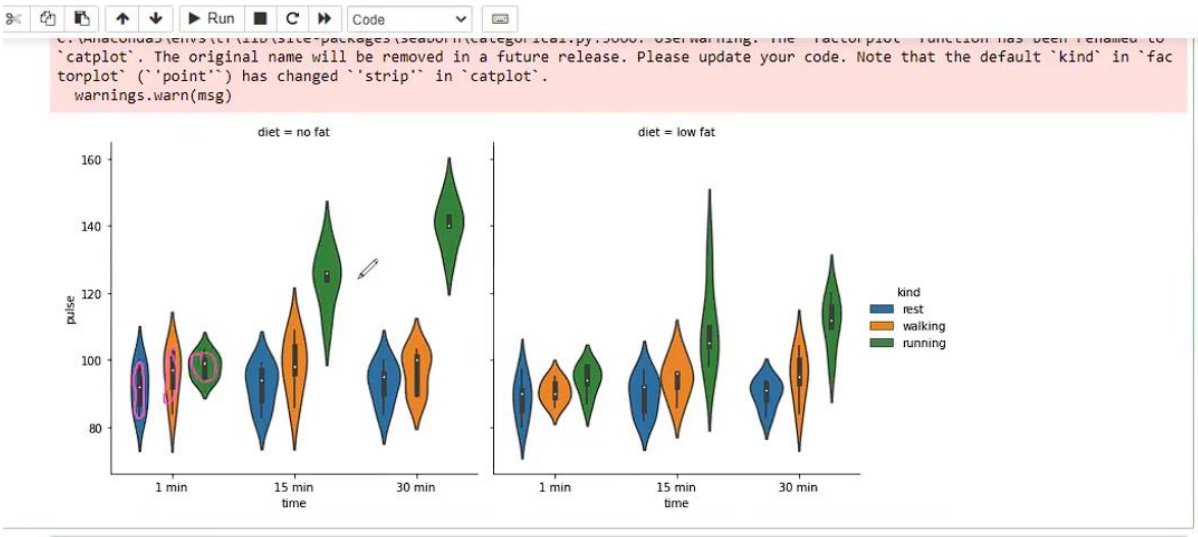
Factor Plot in Seaborn is used for visualizing categorical data. It allows users to analyze and compare different categories within a dataset through various types of plots such as bar plots, box plots, violin plots, and more.

Dataset:**exercise.csv**

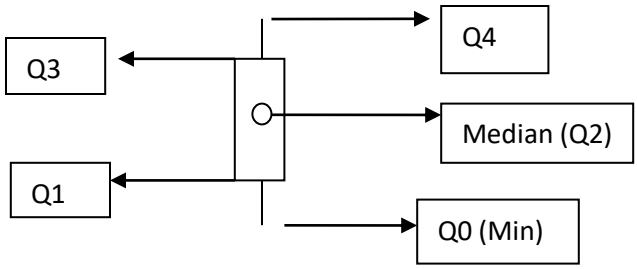
In the dataset has 4 columns: id, diet, pulse, time, kind.

sb.factorplot(x=”time”,y=”pulse”,hue=”kind”,kind=”violin”,

col=”diet”,data=”dataset”)



Box plot has 5 values:Q0(min),Q1,Q2(median),Q3,Q4(max)



Time=1min & diet=no fat (Box Plot)

When Time=1min,kind=rest,diet=no fat that time Pulse is exist within the following range

Q0=83,Q1(25%)=near85,Q2(50%)=90, Q3(75%)=98,

Q4(100%)=100

When Time=1min,kind=walking,diet=no fat that time Pulse is exist within the following range

Q0=84,Q1(25%)=90,Q2(50%)=97, Q3(75%)=105,

Q4(100%)=106.

When Time=1min,kind=running,diet=no fat that time Pulse is exist within the following range

Q0=96Q1(25%)=96,Q2(50%)=100,Q3(75%)=103,

Q4(100%)=107.

Time=1min & diet=no fat (violin Plot)

Using probability density we find out the density of pulse is high only when we are in running mode.During rest and walking mode the density of pulse is low compare to running.

Time=15min & diet=no fat (Box Plot)

When Time=15min,kind=rest,diet=no fat that time Pulse is exist within the following range

Q0=84,Q1(25%)=89,Q2(50%)=96, Q3(75%)=99,

Q4(100%)=100

When Time=15min,kind=walking,diet=no fat that time Pulse is exist within the following range

Q0=88,Q1(25%)=97,Q2(50%)=99, Q3(75%)=107,

Q4(100%)=110

When Time=15min,kind=running,diet=no fat that time Pulse is exist within the following range

Q1(25%)=123,Q2(50%)=125,Q3(75%)=126

The absence of whiskers indicates that the first quartile (Q1) is the minimum value and the third quartile (Q3) is the maximum value

Time=15min & diet=no fat (violin Plot)

Using probability density we find out the density of pulse is high only when we are in rest mode.During walking mode the density of pulse is low compare to running & rest.

Like wise we can find out box plot and violin plot when Time=30min, diet=nofat and kind=walking,running,rest.

Time=1min & diet=low fat (Box Plot)

When Time=1min,kind=rest,diet=low fat that time Pulse is exist within the following range

Q0=81,Q1(25%)=85,Q2(50%)=93, Q3(75%)=95,

Q4(100%)=98

When Time=1min,kind=walking,diet=low fat that time Pulse is exist within the following range

Q0=88,Q1(25%)=90,Q2(50%)=93, Q3(75%)=96,

Q4(100%)=97

When Time=1min,kind=running,diet=low fat that time Pulse is exist within the following range

Q0=87,Q1(25%)=97,Q2(50%)=98, Q3(75%)=100

Here no whiskers on upper side of boxplot.So Q3is act as maximum value(Q4).

Time=1min & diet=low fat (violin Plot)

Using probability density we find out the density of pulse is high only when we are in walking mode.During running mode the density of pulse is low compare to walking .

Time=15min & diet=low fat (Box Plot)

When Time=15min,kind=rest,diet=low fat that time Pulse is exist within the following range

Q0=82,Q1(25%)=84,Q2(50%)=96, Q3(75%)=98,

Q4(100%)=99

When Time=15min,kind=walking,diet=low fat that time Pulse is exist within the following range

Q0=87,Q1(25%)=96,Q2(50%)=96, Q3(75%)=99

Here no whiskers on upper side of boxplot.So Q3is act as maximum value(Q4).

When Time=15min,kind=running,diet=low fat that time Pulse is exist within the following range

Q0=100,Q1(25%)=104,Q2(50%)=105, Q3(75%)=115

Here no whiskers on upper side of boxplot.So Q3is act as maximum value(Q4).

Time=15min & diet=low fat (violin Plot)

Using probability density we find out the density of pulse is high only when we are in rest mode.During walking mode the density of pulse is little bit low compare to rest. During running density of pulse is low compare torest and walking.

Like wise we can find out box plot and violin plot when Time=30min, diet=lowfat and kind=walking,running,rest.

Comparing probability density function based on diet, density rate is high on no fat.