SEABORN- CATPLOT

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[59]: import seaborn as sb
from matplotlib import pyplot as plt
df = sb.load_dataset("exercise")
sb.catplot(x="time", y="pulse", hue="kind", kind="violin", col="diet", data=df)
plt.show()
```

```
C:\Users\ragus\anaconda3\Lib\site-packages\seaborn\categorical.py:641: FutureWarning: The default of observed=False is deprecated and will be changed to True in a future version of pandas. Pass observed=False to retain current behavior or observed=True to adopt the future default and silence this warning.
  grouped_vals = vals.groupby(grouper)
C:\Users\ragus\anaconda3\Lib\site-packages\seaborn\categorical.py:641: FutureWarning: The default of observed=False is deprecated and will be changed to True in a future version of pandas. Pass observed=False to retain current behavior or observed=True to adopt the future default and silence this warning.
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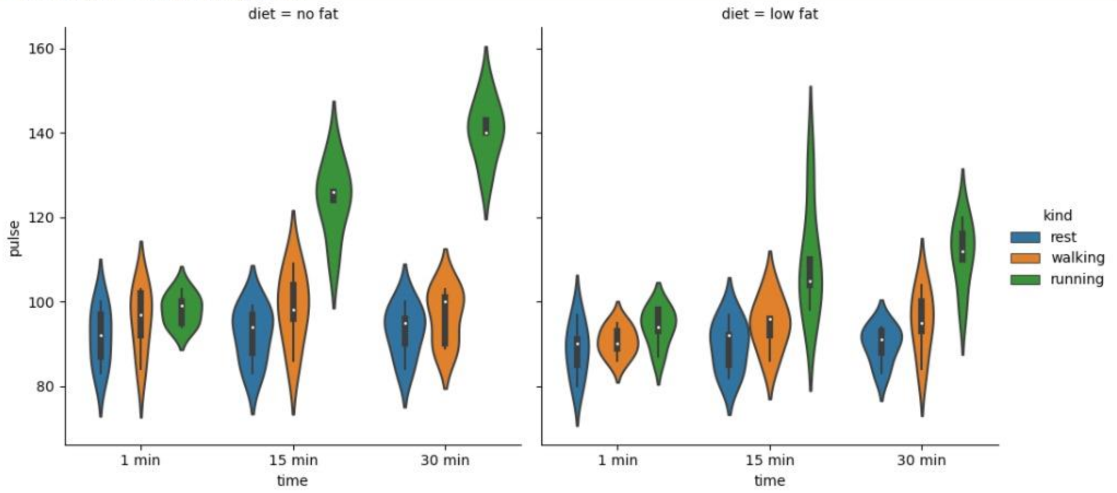
  grouped_vals = vals.groupby(grouper)
```



The analysis. Mention that the dataset being used is from the "exercise" dataset provided by seaborn.

Time on the x-axis: Represents the time of day when the exercise was performed.

Pulse on the y-axis: Represents the pulse rate observed during the exercise.

Kind (hue): Represents the type of exercise performed.

Diet (faceted by column): Represents the diet category of the individuals.

Diet=no fat,diet=low fat

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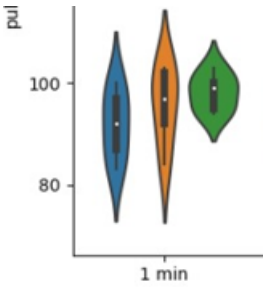

Time and Pluse: Diet=no fat During the 0.00 sec period to 35-min
During the 0.05-sec period to 35-minute Diet=no fat:

The Rest interval lasts from 0.0 seconds to 0.34 seconds.

In the "no fat" diet category, the pulse rate ranges from 75 bpm to 110 bpm max in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 83 bpm to 70 bpm.

During the 1-minute walking period:

In the "no fat" diet category, the pulse rate ranges from 75 bpm to 115 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 95 bpm to 105 bpm.

During the 2 to 8-minute running period:

In the "no fat" diet category, the pulse rate ranges from 90 bpm to 104 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 98 bpm to 103 bpm.

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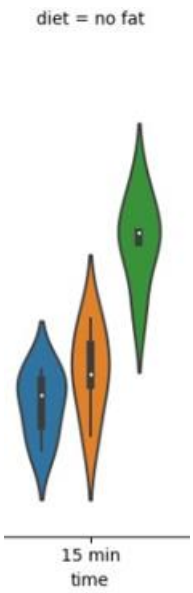

Time and Pluse: Diet=no fat During the 0.00 sec period to 35-min

During the 0.05-sec period to 35-minute Diet=no fat:

The Rest interval lasts from 12 min to 13 min.

In the "no fat" diet category, the pulse rate ranges from 75 bpm to 105 bpm max in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 83 bpm to 90 bpm.

During the 14-minute to 16-minute walking period:

In the "no fat" diet category, the pulse rate ranges from 85 bpm to 121 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 84 bpm to 110 bpm.

During the 17-minute to 23-minute running period:

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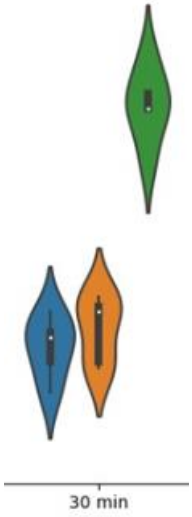
In the "no fat" diet category, the pulse rate ranges from 98 bpm to 145 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 121 bpm to 123 bpm.



Time and Pluse: Diet=no fat During the 0.00 sec period to 35-min

During the 0.05-sec period to 35-minute Diet=no fat:

The Rest interval lasts from 27 min to 29-min.

In the "no fat" diet category, the pulse rate ranges from 87 bpm to 110 bpm max in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 83 bpm to 100 bpm.

During the 29-minute to 32-min walking period:

In the "no fat" diet category, the pulse rate ranges from 82bpm to 116 bpm in the violin plot.

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In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 90 bpm to 101 bpm.

During the 33 to 35-minute running period:

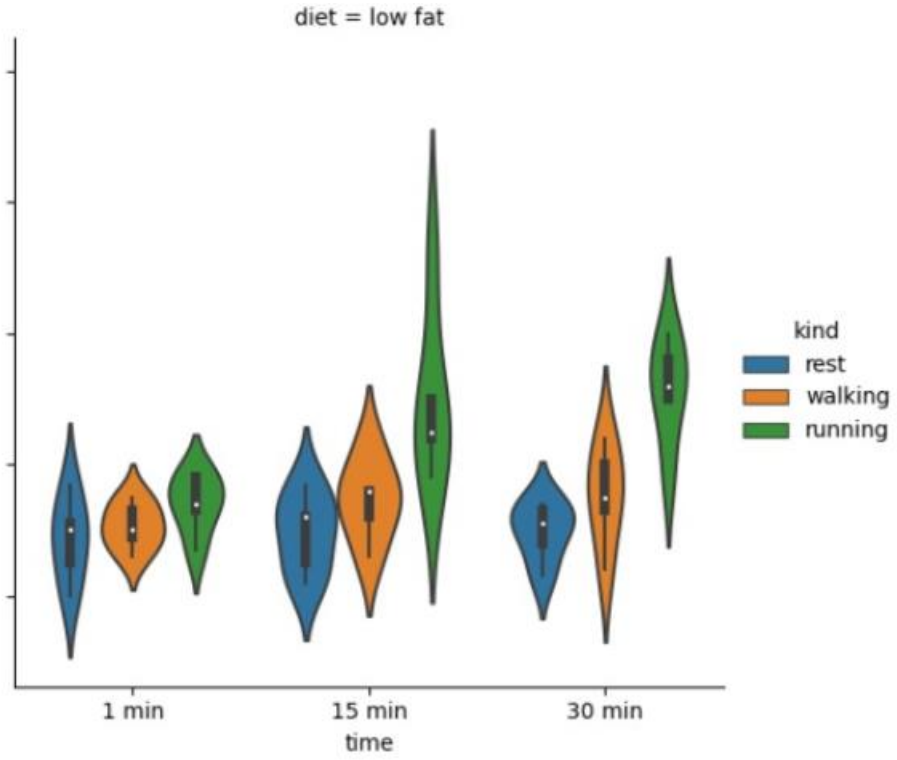
In the "no fat" diet category, the pulse rate ranges from 120 bpm to 161 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 140 bpm to 145bpm.

Conclusion of the "no fat" diet category:

Throughout the cycle of rest, walking, and running, ranging from 1 minute to 35 minutes, the pulse rate gradually increases.

The highest pulse rate, reaching 161 bpm, is observed during the last 35 minutes



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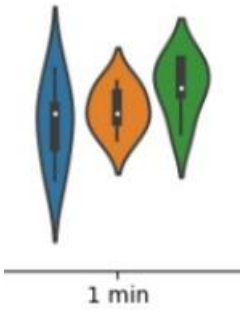
Diet (faceted by column): Represents the diet category of the individuals.

Diet=low fat



Time and Pluse: Diet=low fat During the 0.00 sec period to 35-min
During the 0.05-sec period to 35-minute Diet=low fat:

The REST interval lasts from 0.0 seconds to 0.34 seconds.

In the "low fat" diet category, the pulse rate ranges from 75 bpm to 110 bpm max in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 81 bpm to 97 bpm.

During the 1-minute walking period:

In the "low fat" diet category, the pulse rate ranges from 82 bpm to 98 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 84 bpm to 97 bpm.

During the 2 to 8-minute running period:

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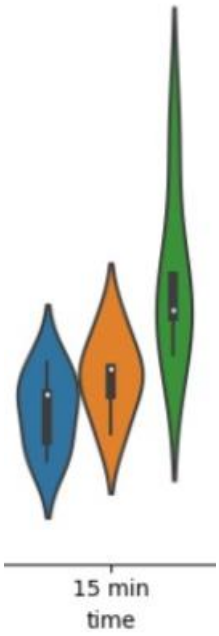
In the "low fat" diet category, the pulse rate ranges from 82 bpm to 100 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "no fat" diet category ranges from 85 bpm to 98 bpm.



Time and Pluse: Diet=low fat During the 0.00 sec period to 35-min
During the 0.05-sec period to 35-minute Diet=low fat:

The Rest interval lasts from 12 min to 13 min.

In the "low fat" diet category, the pulse rate ranges from 78 bpm to 105 bpm max in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 81 bpm to 97 bpm.

During the 14-minute to 16-minute walking period:

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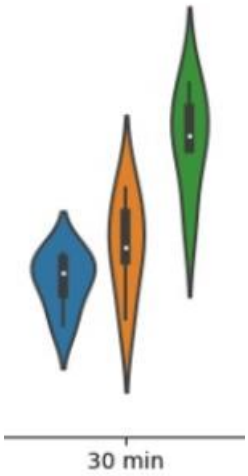
In the "low fat" diet category, the pulse rate ranges from 75bpm to 102 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 85 bpm to 90 bpm.

During the 17-minute to 23-minute running period:

In the "low fat" diet category, the pulse rate ranges from 82 bpm to 150 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 98 bpm to 110 bpm.



Time and Pluse: Diet=low fat During the 0.00 sec period to 35-min

During the 0.05-sec period to 35-minute Diet=low fat:

The Rest interval lasts from 27 min to 29-min.

In the "low fat" diet category, the pulse rate ranges from 80 bpm to 100 bpm max in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 89 bpm to 98 bpm.

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During the 29-minute to 32-min walking period:

In the "low fat" diet category, the pulse rate ranges from 78 bpm to 111 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 100 bpm to 83 bpm.

During the 33 to 35-minute running period:

In the "low fat" diet category, the pulse rate ranges from 90 bpm to 125 bpm in the violin plot.

In the box plot, the maximum pulse rate observed in the "low fat" diet category ranges from 121 bpm to 115 bpm.

Conclusion of the "low fat" diet category:

Throughout the cycle of rest, walking, and running, ranging from 1 minute to 35 minutes, the pulse rate gradually increases.

The highest pulse rate, reaching 150 bpm, is observed during the last 20 minutes running.