```
In [1]:   import pandas as pd
          import matplotlib.pyplot as plt
          from astropy.stats.circstats import circmean
          from functools import reduce
          import datetime
          import pickle
          import time
          import plotly.express as px
          import numpy as np
          import sqlite3

          pd.set_option("display.precision", 2)
          plt.rcParams.update({'font.size': 20, 'figure.figsize': (8, 4)})

          %matplotlib inline
          import matplotlib_inline
          matplotlib_inline.backend_inline.set_matplotlib_formats('svg')

          import seaborn as sns
          sns.set()

          import warnings
          warnings.filterwarnings('ignore')
```
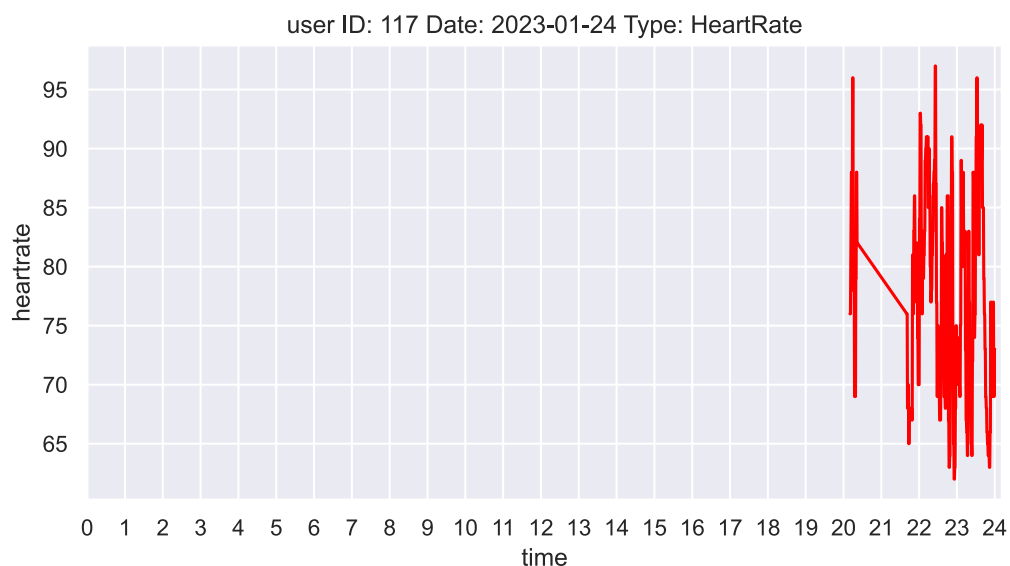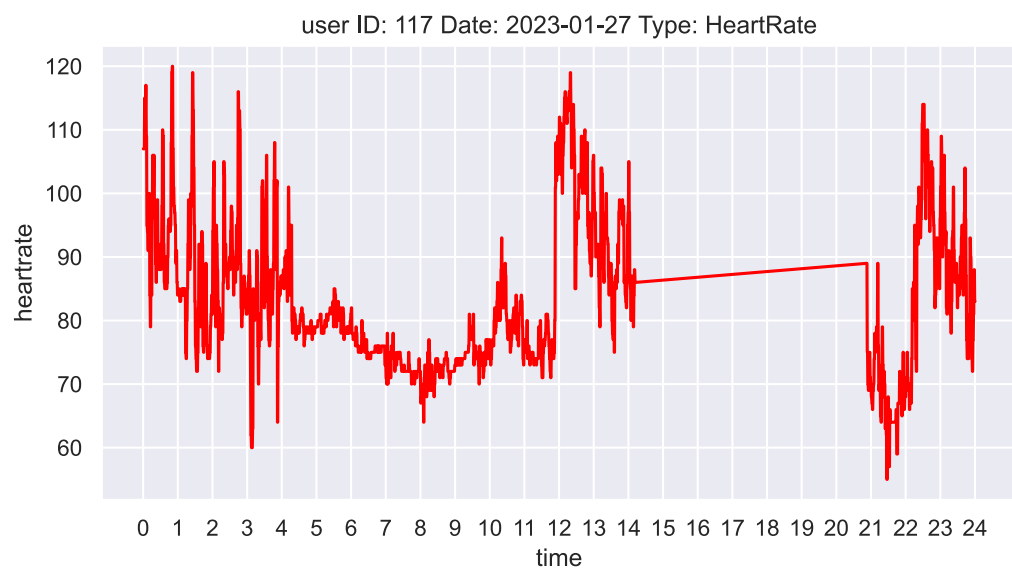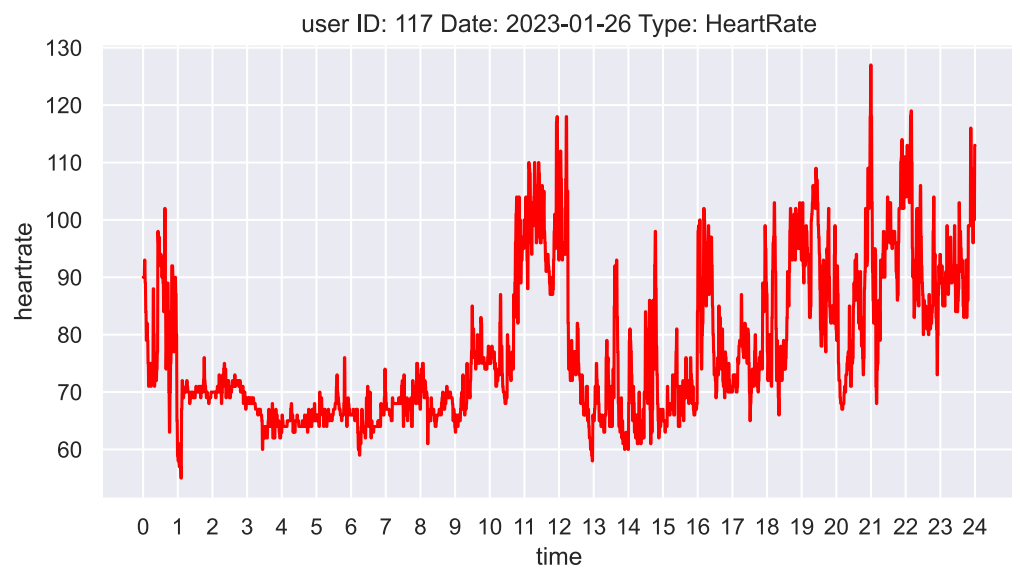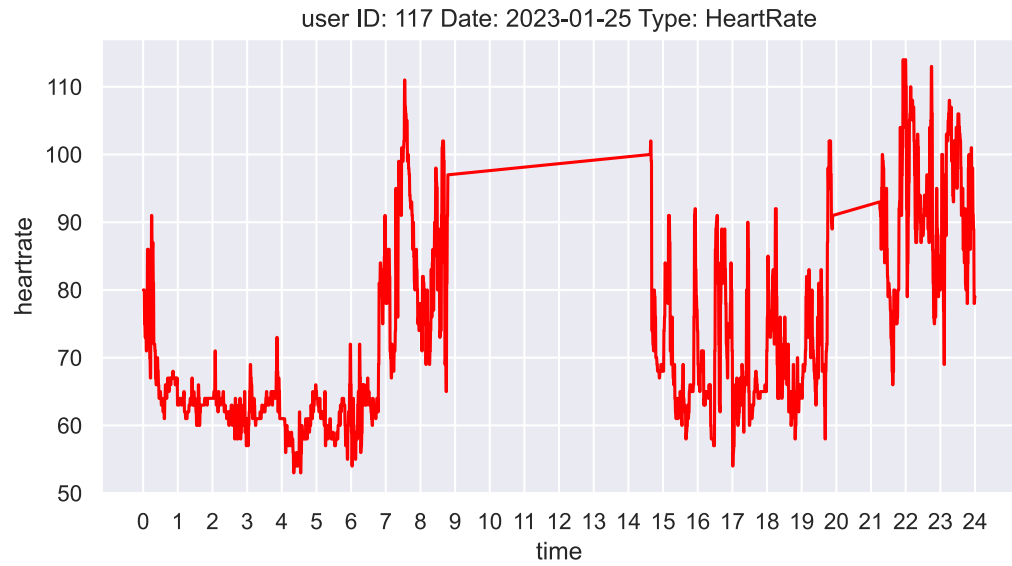
```
In [2]:   connector = sqlite3.connect("../Extras/graphs_data.db")
          cursor = connector.cursor()
```

## Heart Rate graphs printer

```
In [15]:  cursor.execute("SELECT * FROM heartrate_graphs_data WHERE id=117")
          rows = cursor.fetchall()
          for row in rows:
                  #getting heartrate samples from dataframe
                  heartrate_samples_dict = pickle.loads(row[3])
                  heartrate_dict_keys = list(heartrate_samples_dict.keys())
                  heartrate_dict_values = list(heartrate_samples_dict.values())
                  heartrate_samples_df = pd.DataFrame({'time':heartrate_dict_keys, 'heartrate':heartrate_dict_values})
                  #preparing plot title name
                  plot_title_name = 'user ID: '+str(row[0])+' Date: '+str(row[1])+' Type: '+str(row[2])
                  #creating lineplot
                  sns.lineplot(x='time', y='heartrate', data=heartrate_samples_df, color='red')
                  plt.title(plot_title_name)
                  # configurating axis "x" bins
                  plt.xticks(np.arange(0, 25, step=1))

                  plt.show()
```


user ID: 117 Date: 2023-01-24 Type: HeartRate

user ID: 117 Date: 2023-01-25 Type: HeartRate

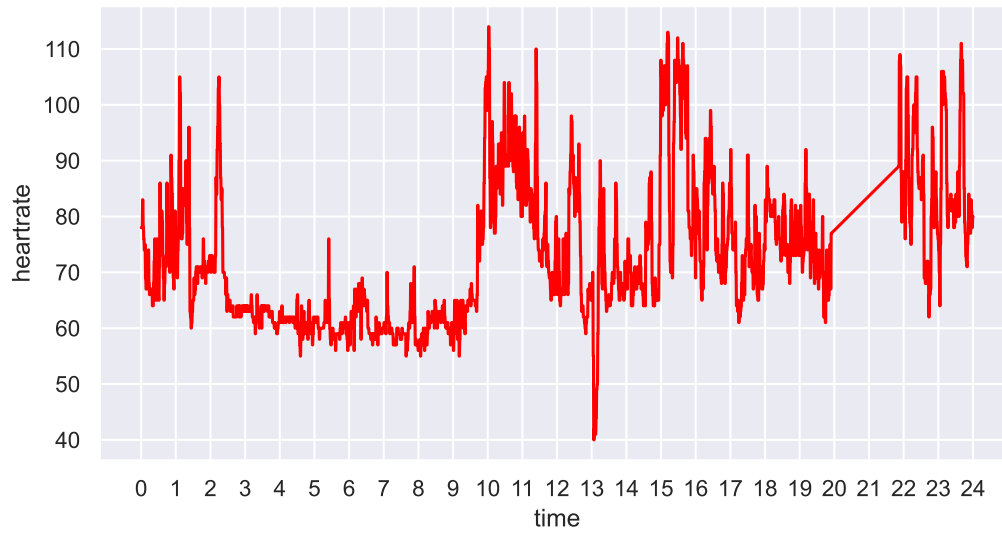user ID: 117 Date: 2023-01-26 Type: HeartRate
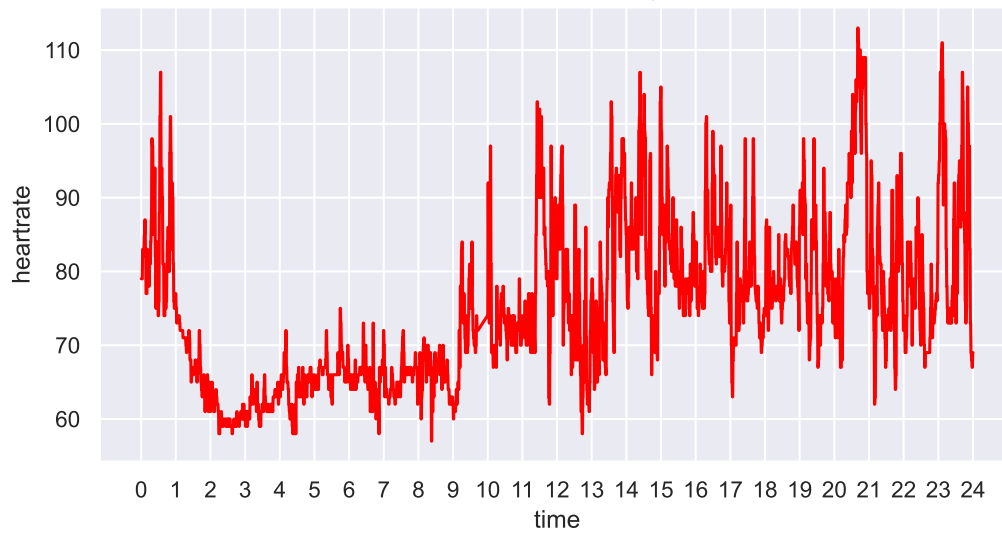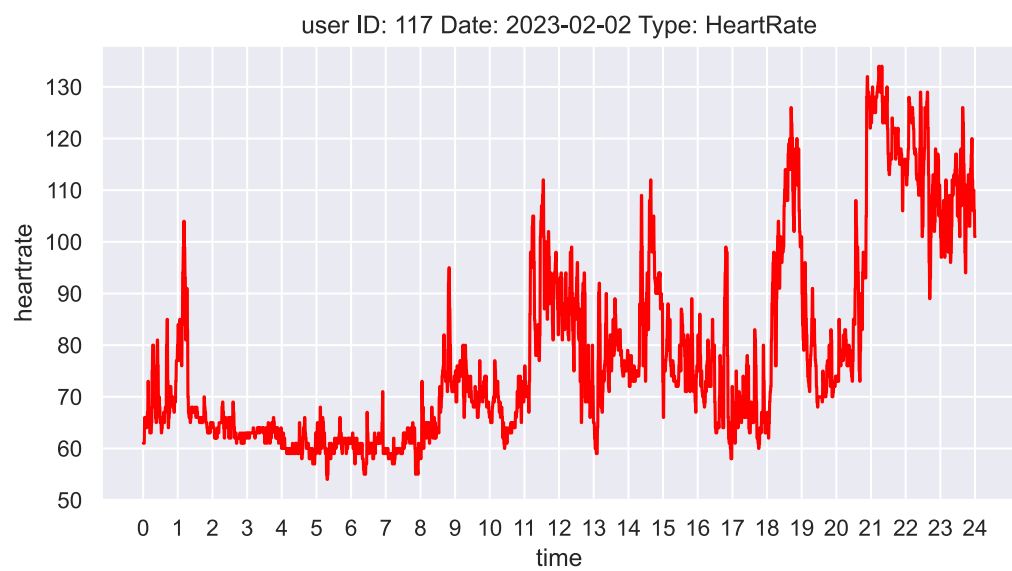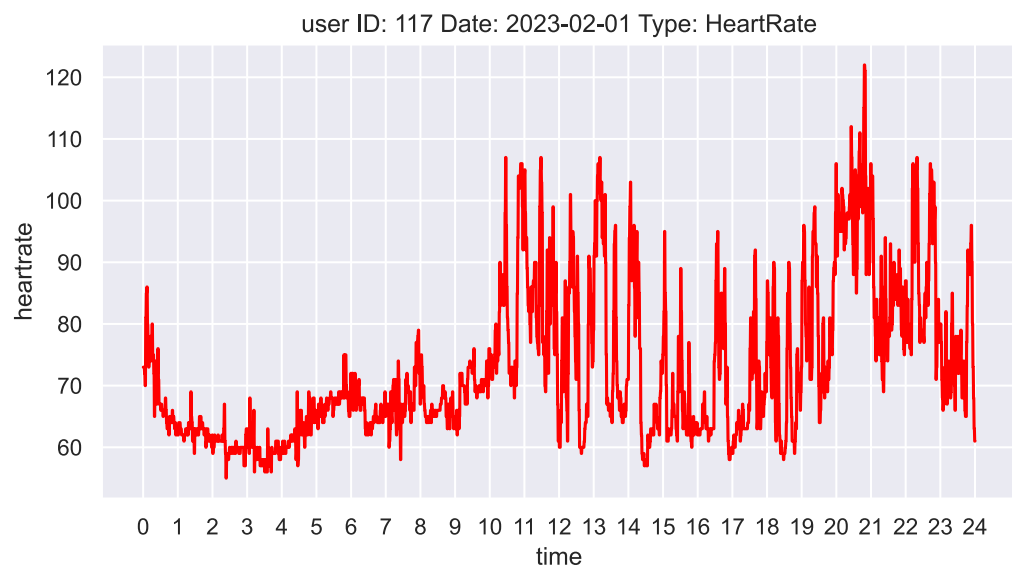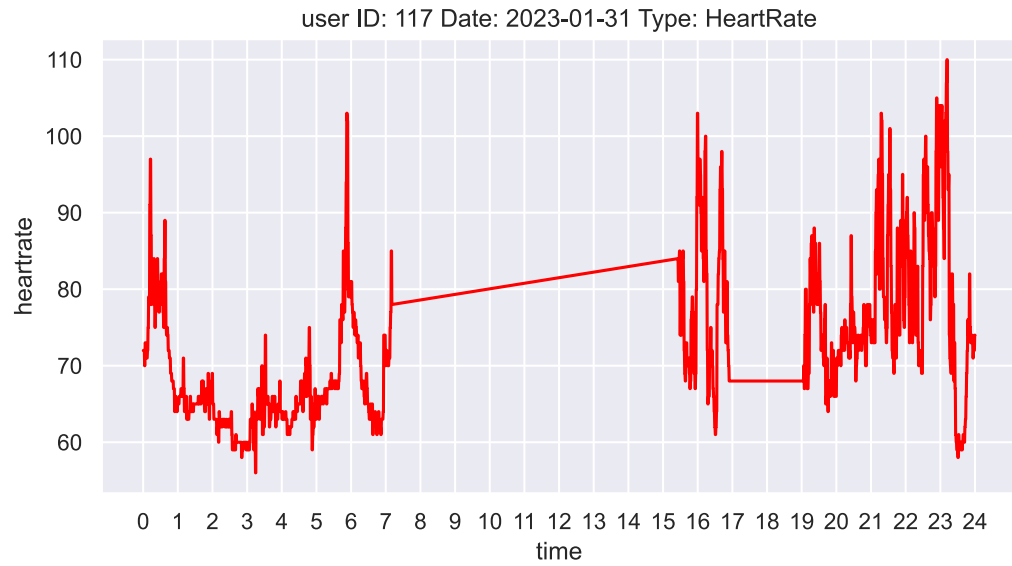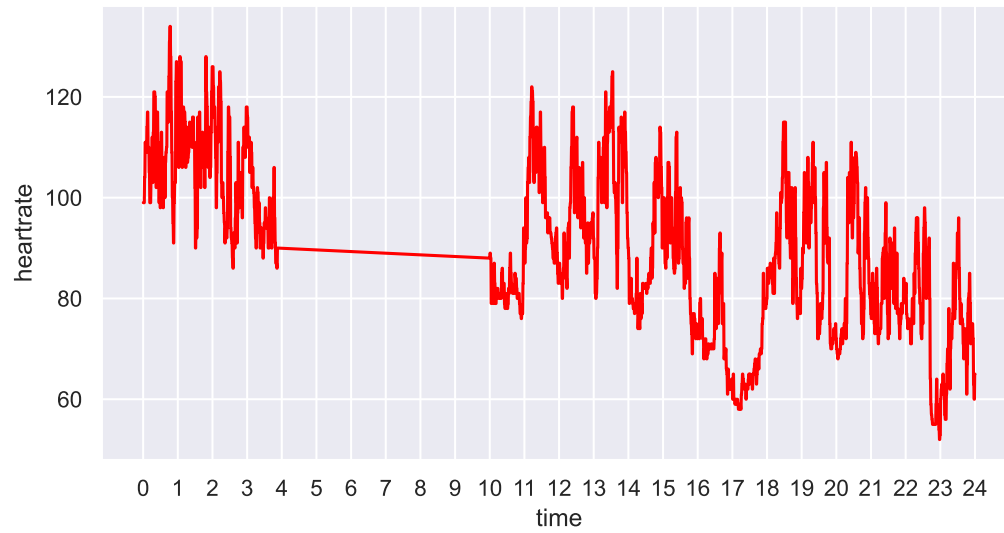
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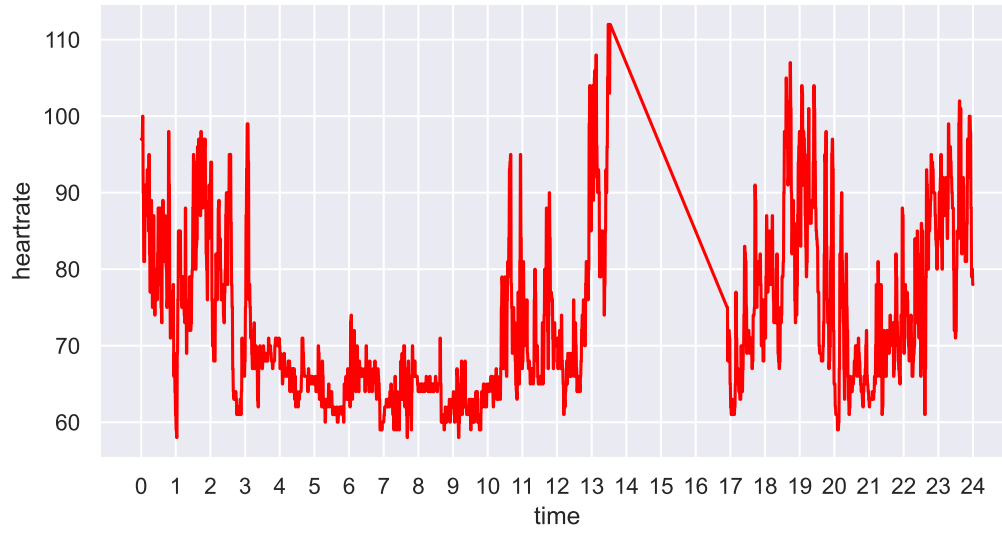
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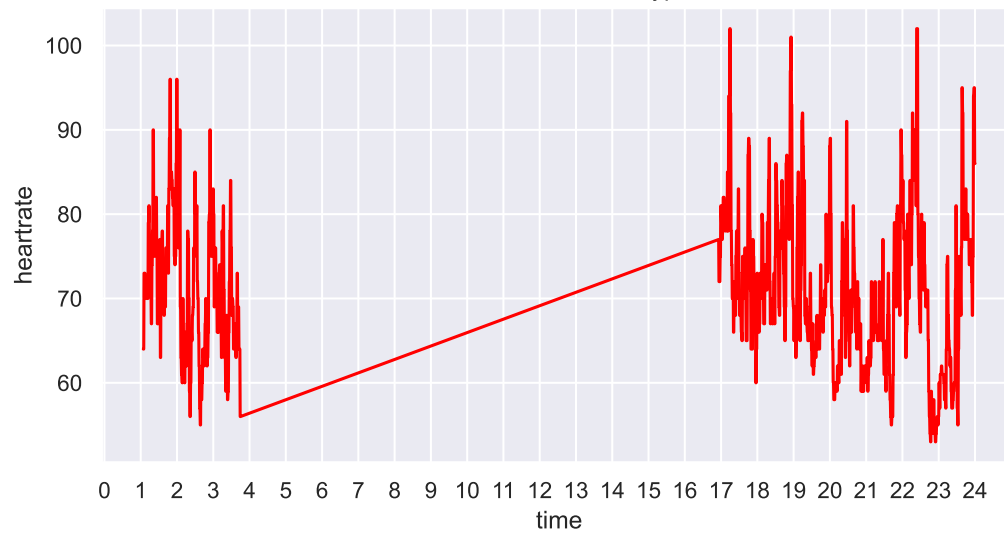
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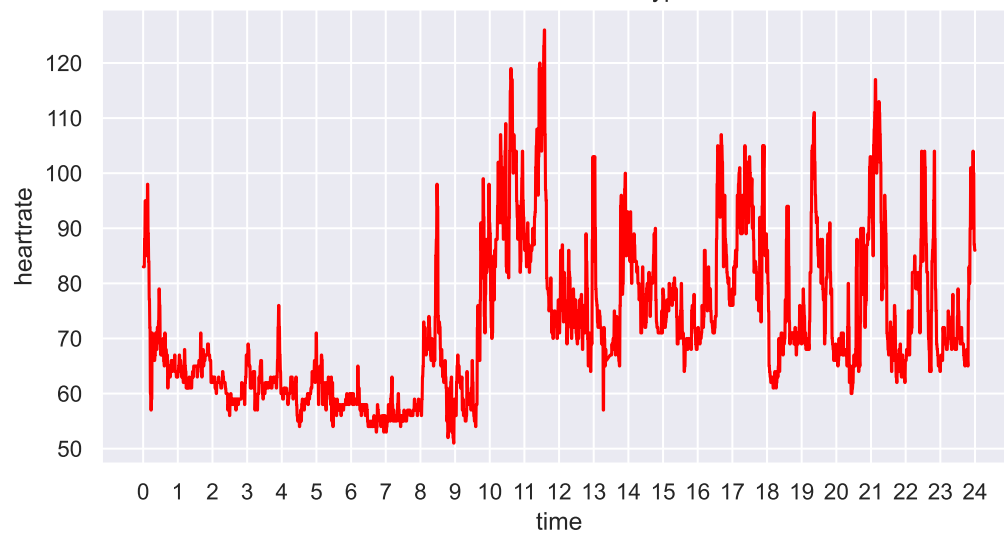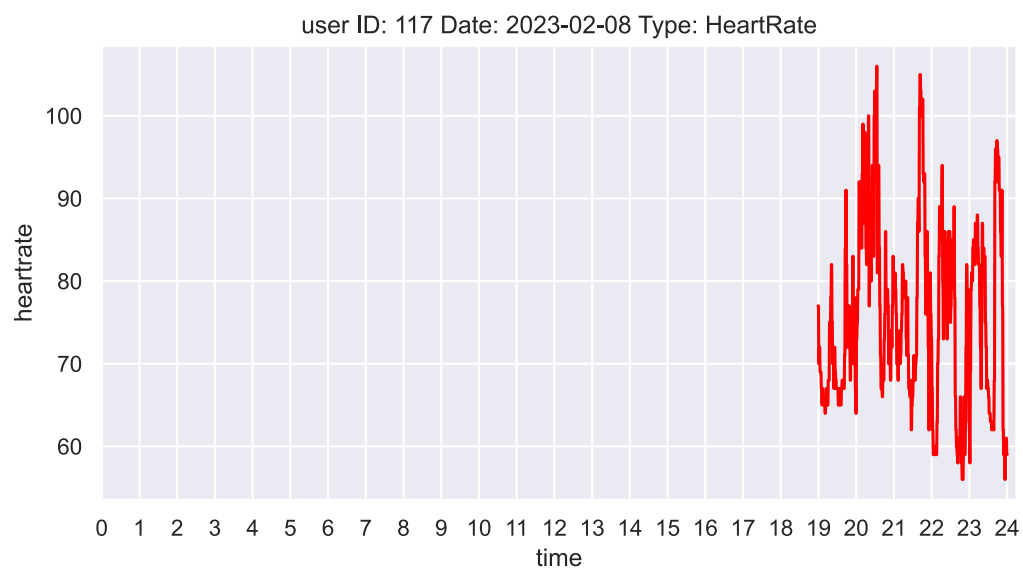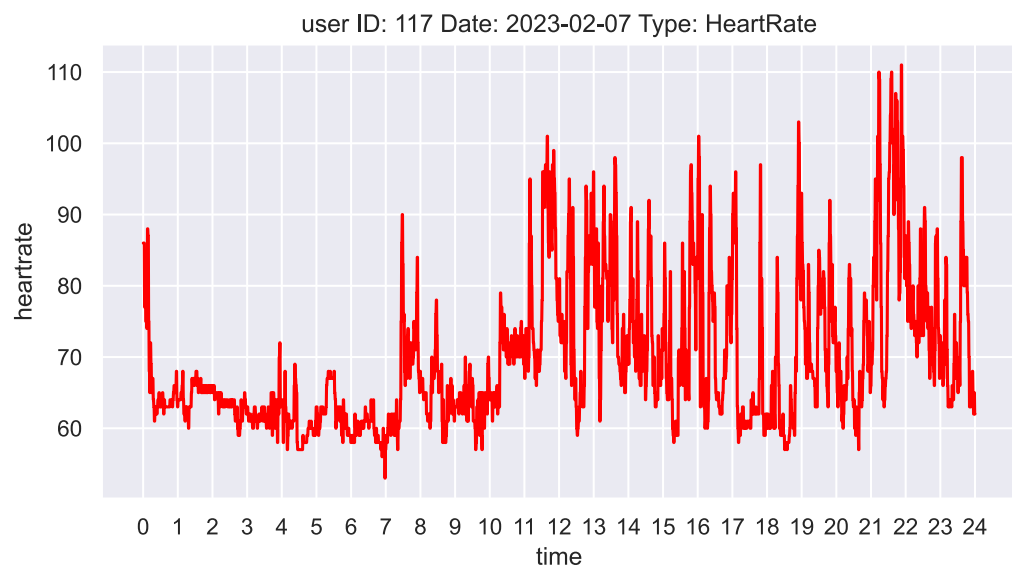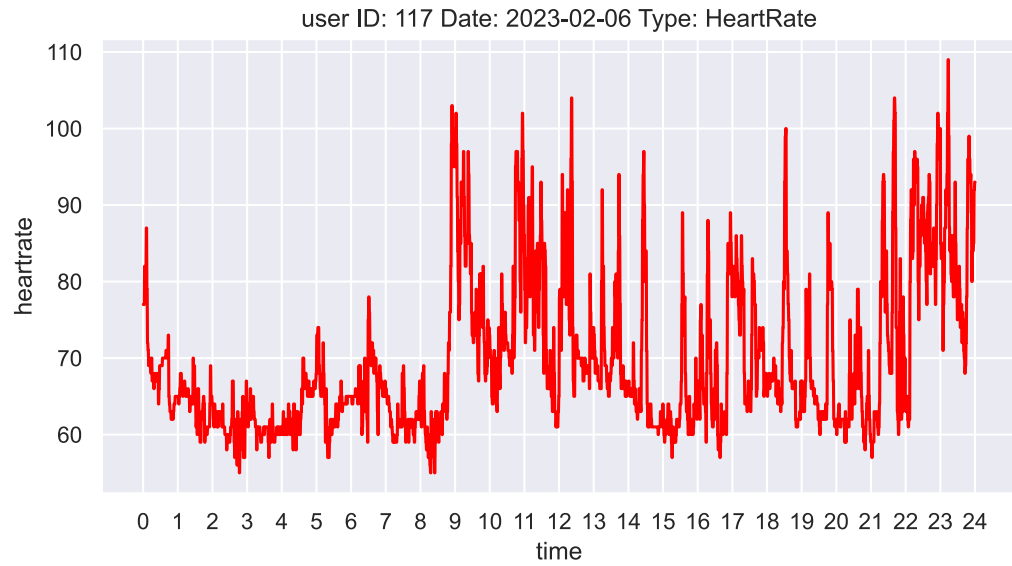user ID: 117 Date: 2023-01-31 Type: HeartRate

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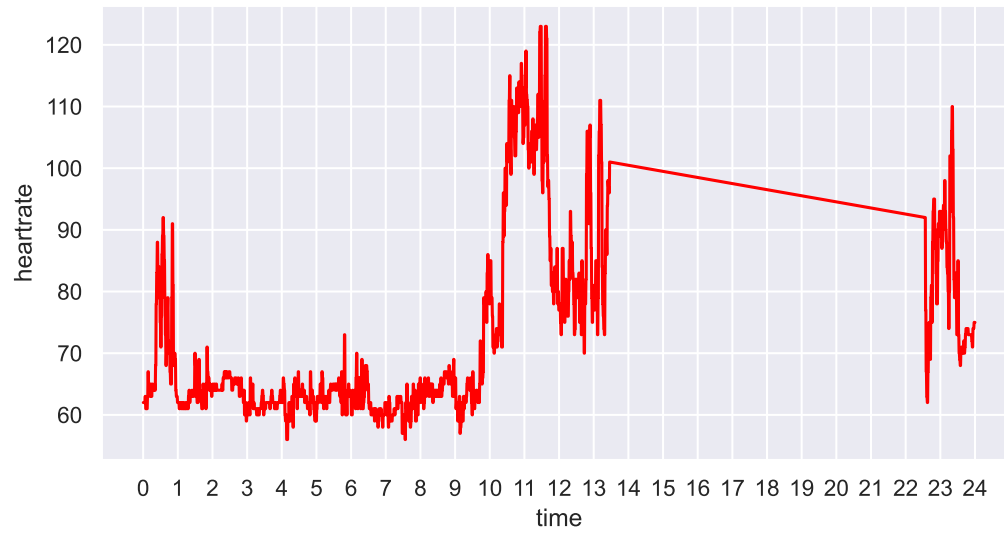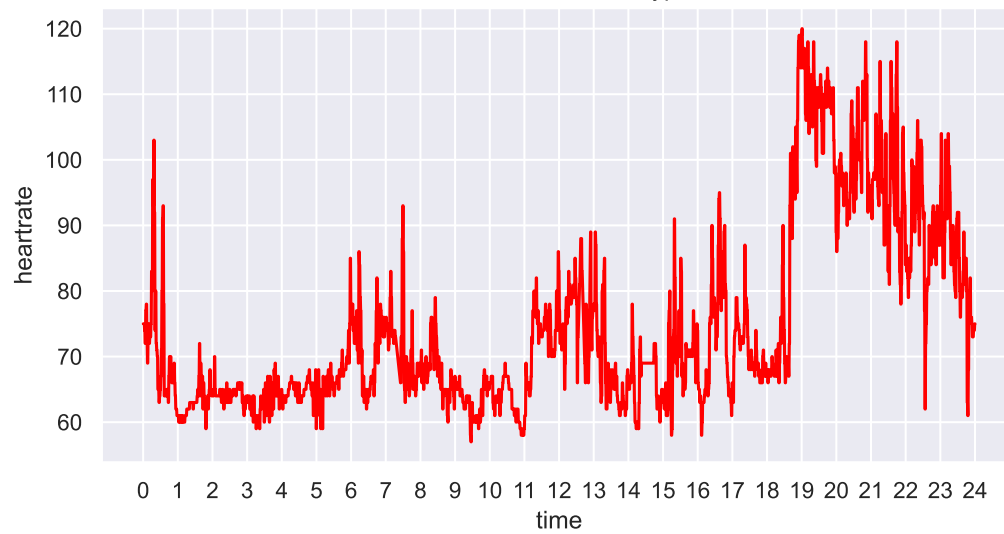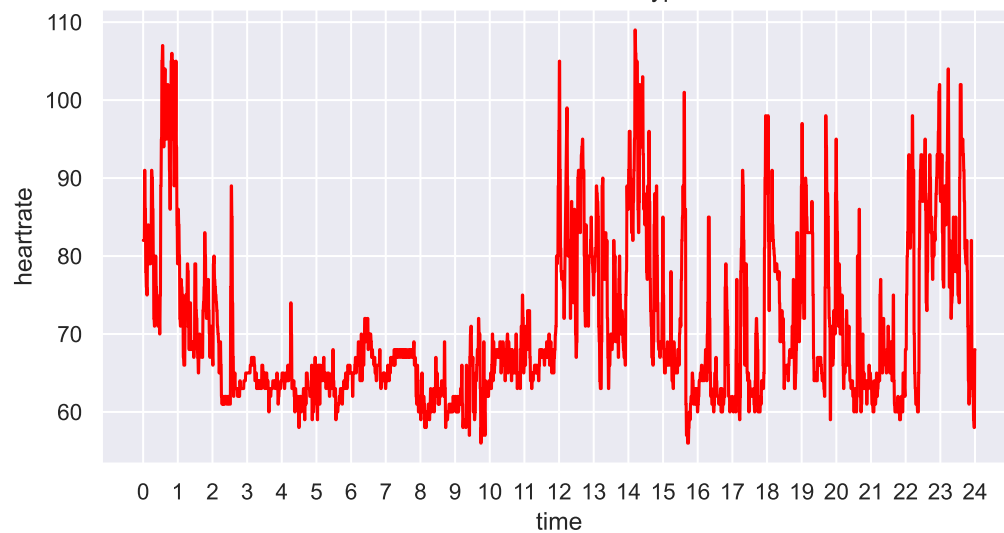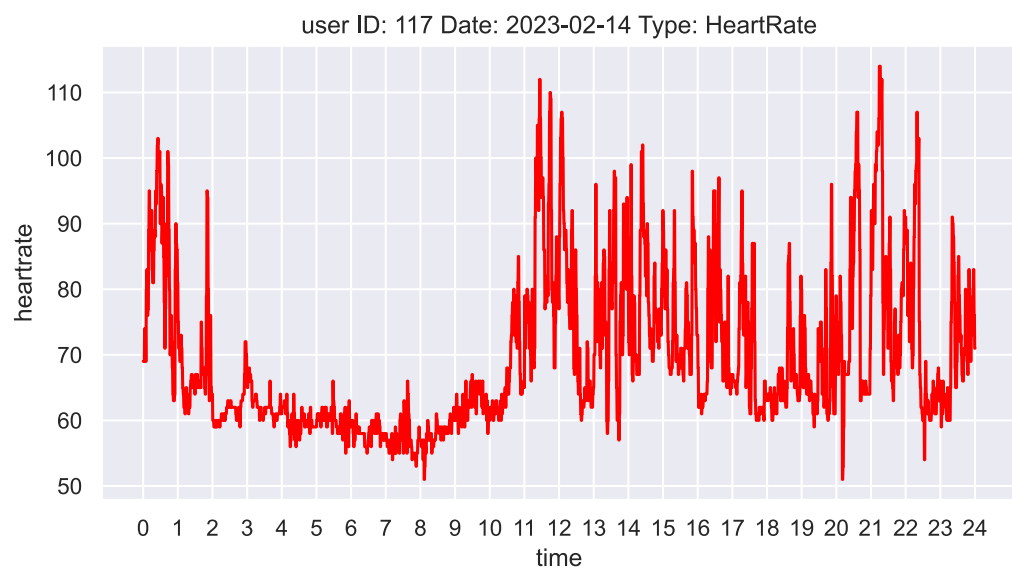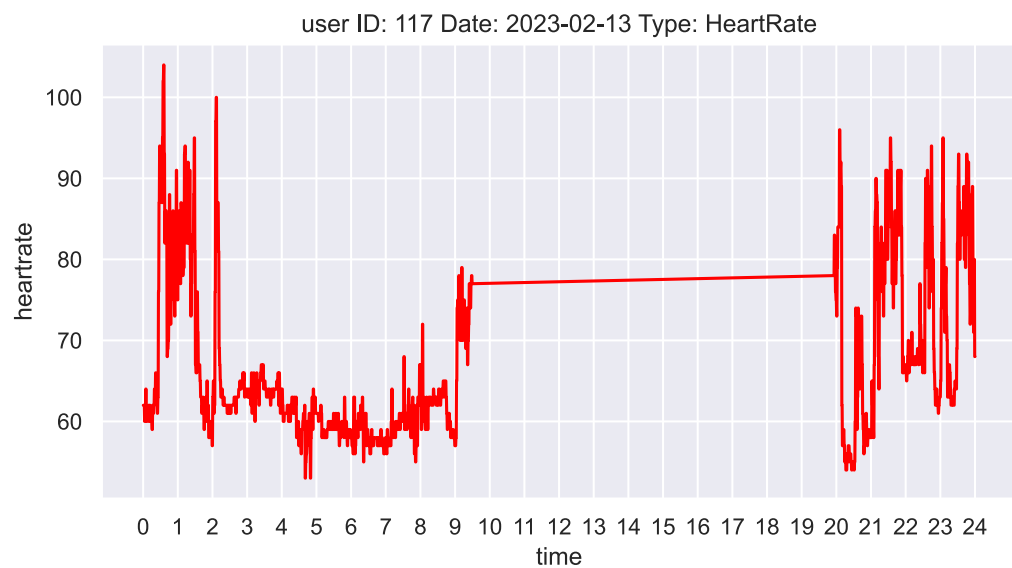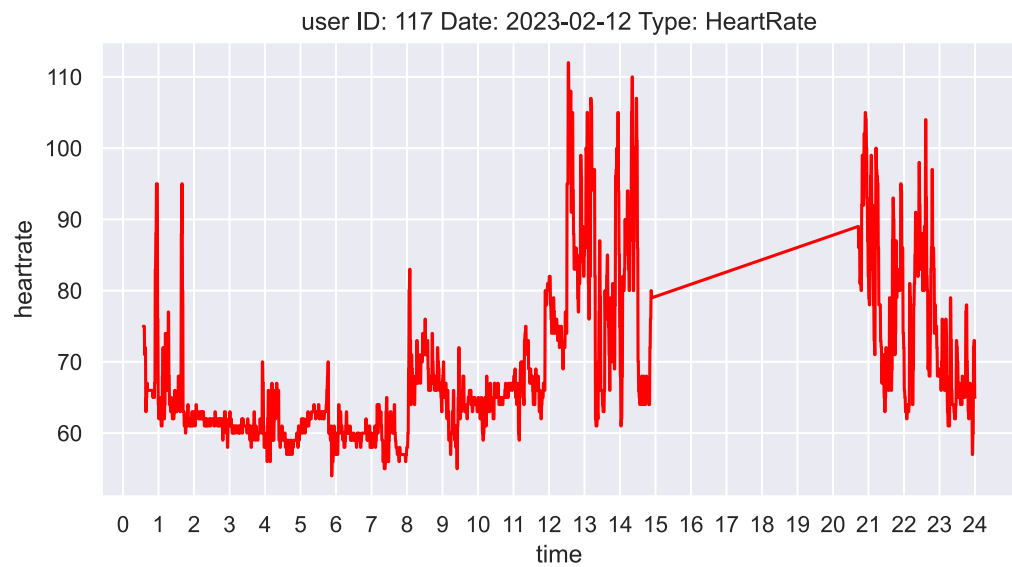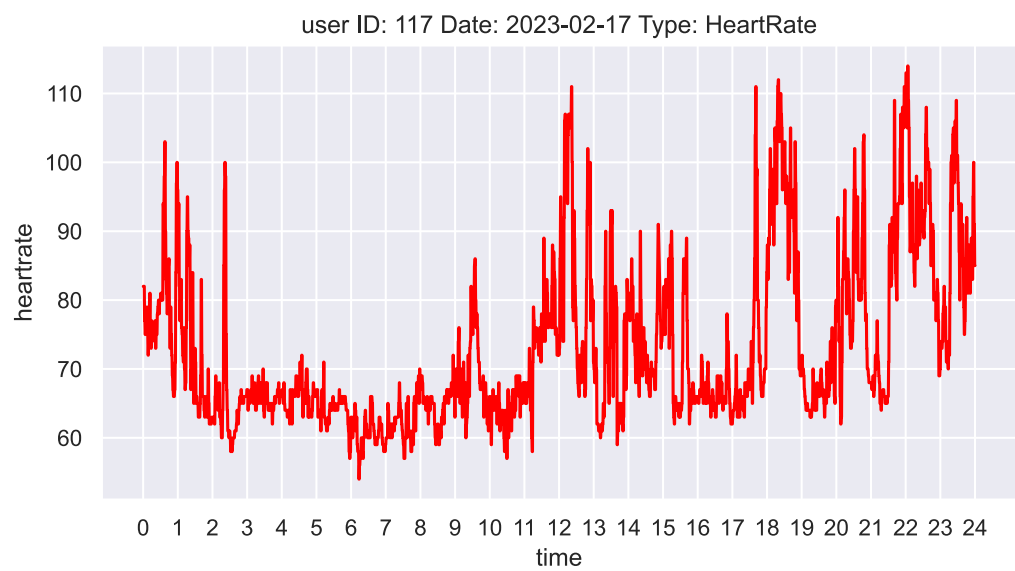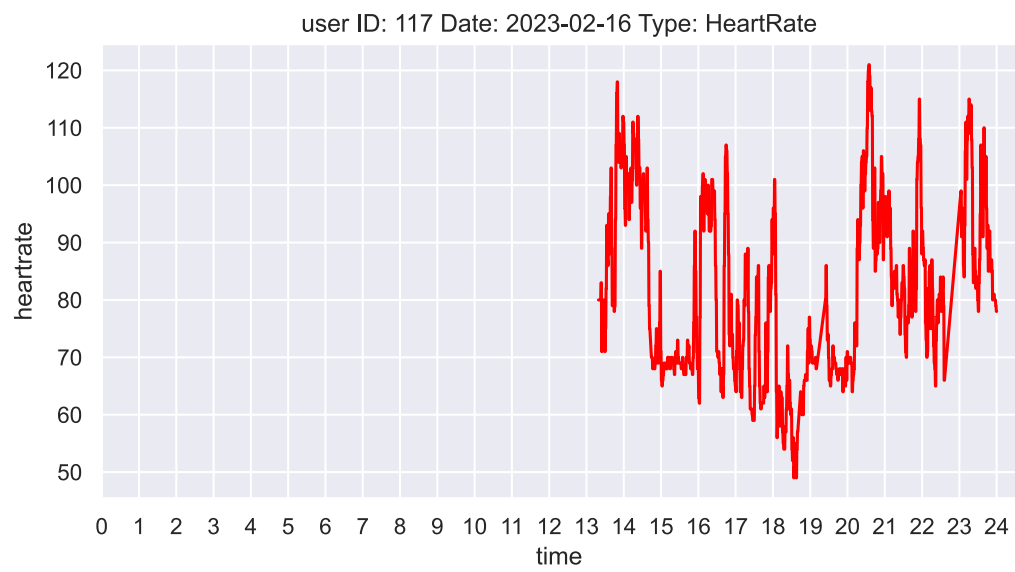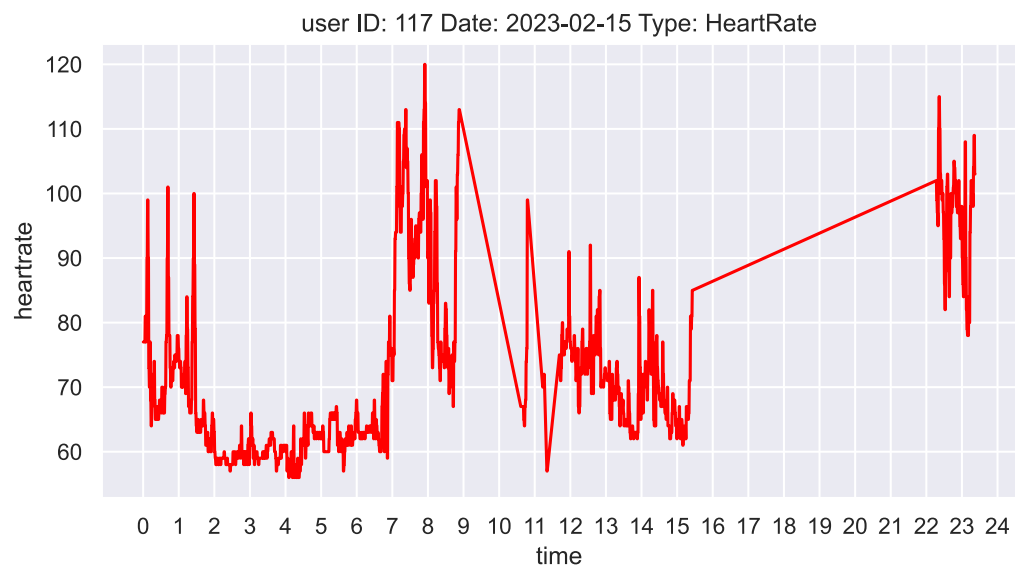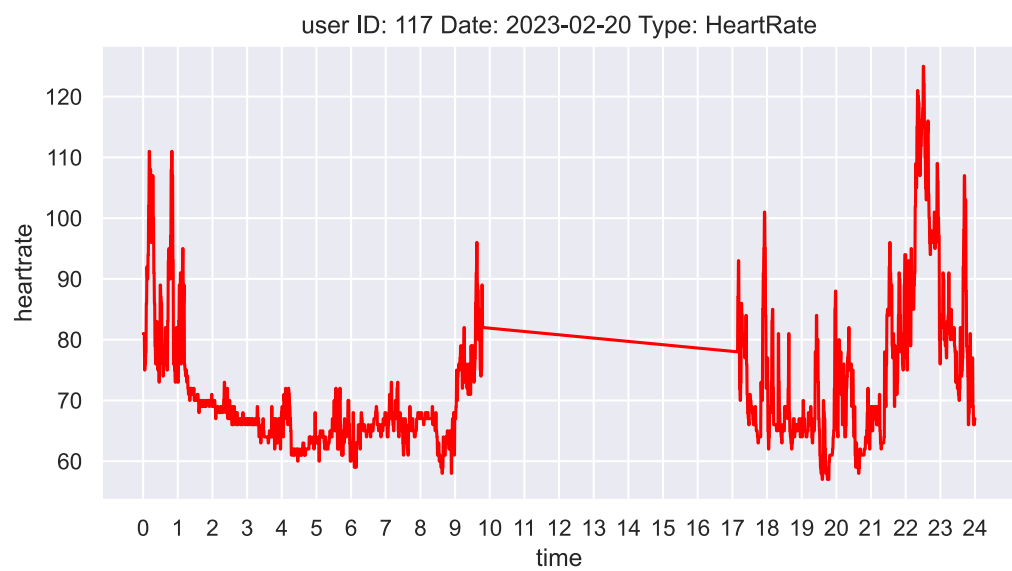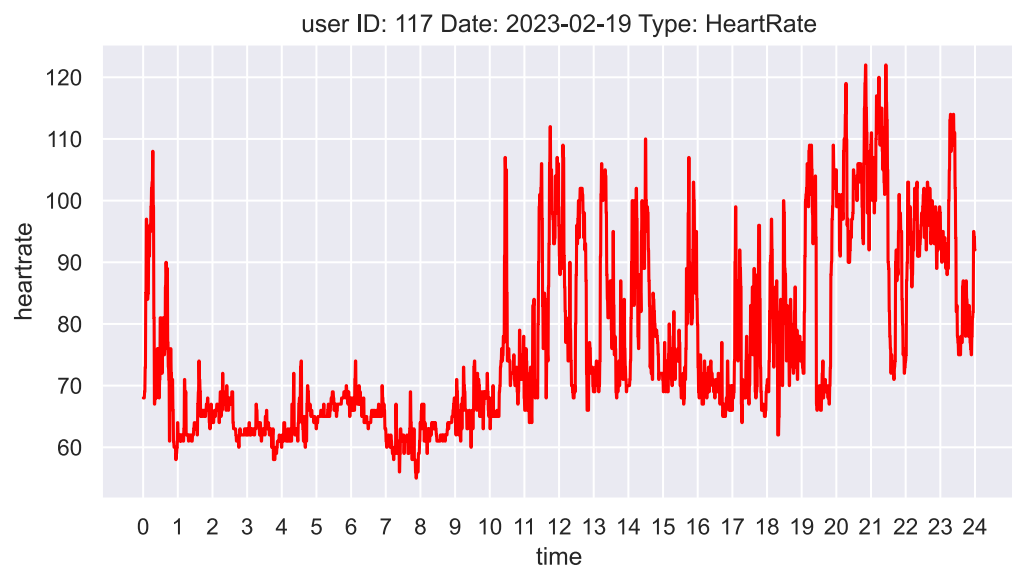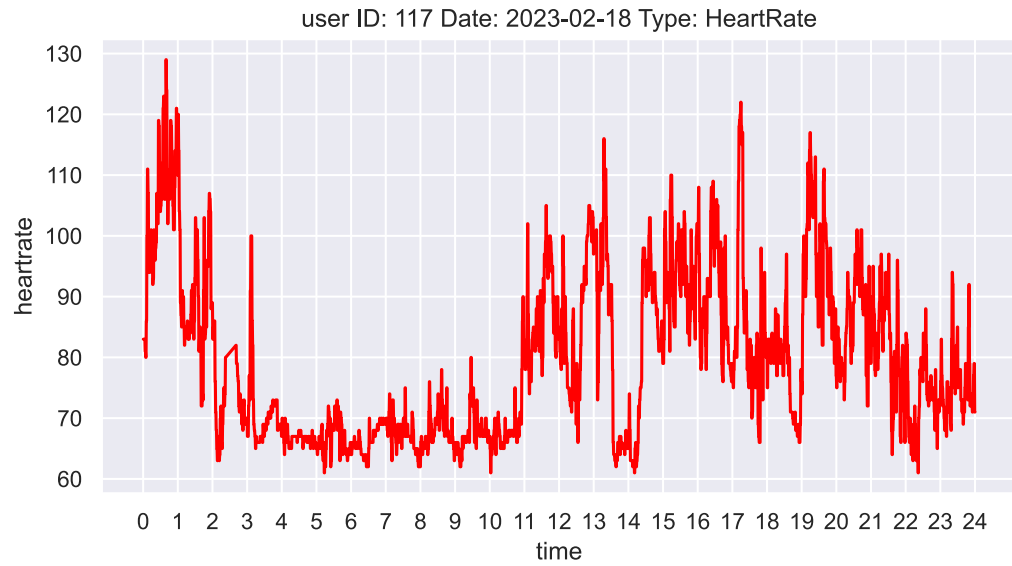user ID: 117 Date: 2023-02-02 Type: HeartRate

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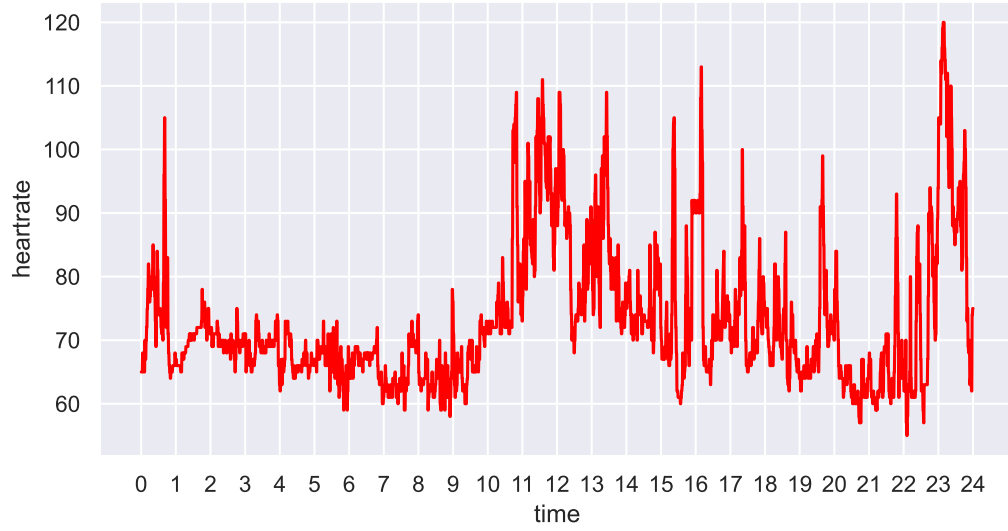user ID: 117 Date: 2023-02-05 Type: HeartRate

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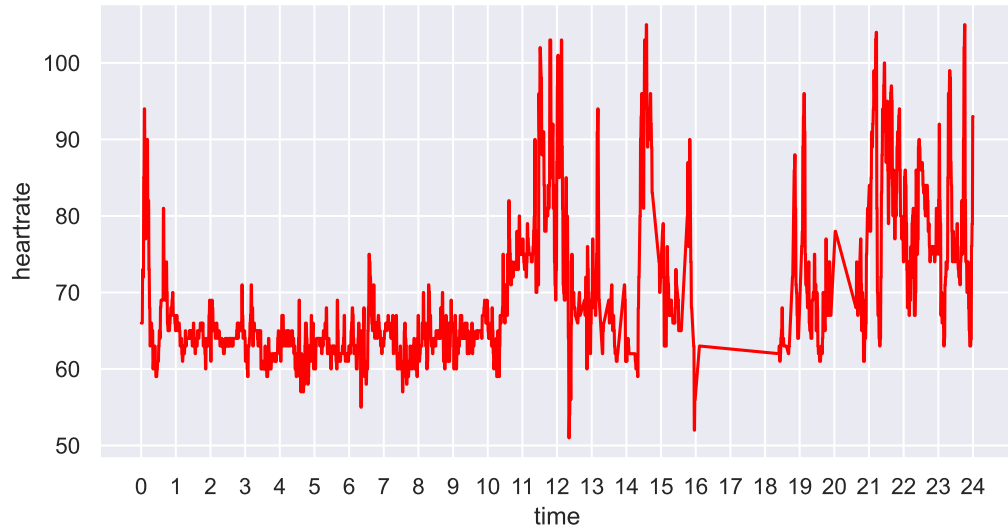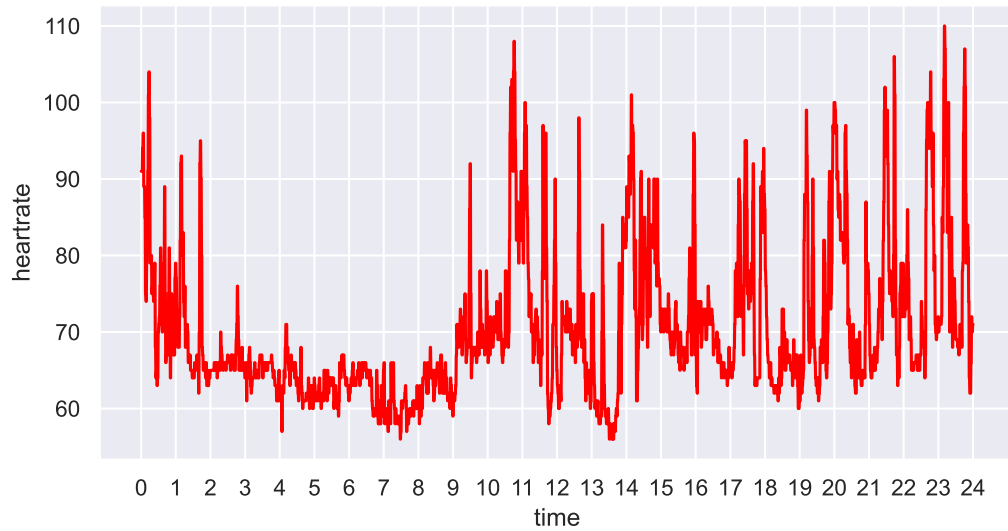user ID: 117 Date: 2023-02-08 Type: HeartRate

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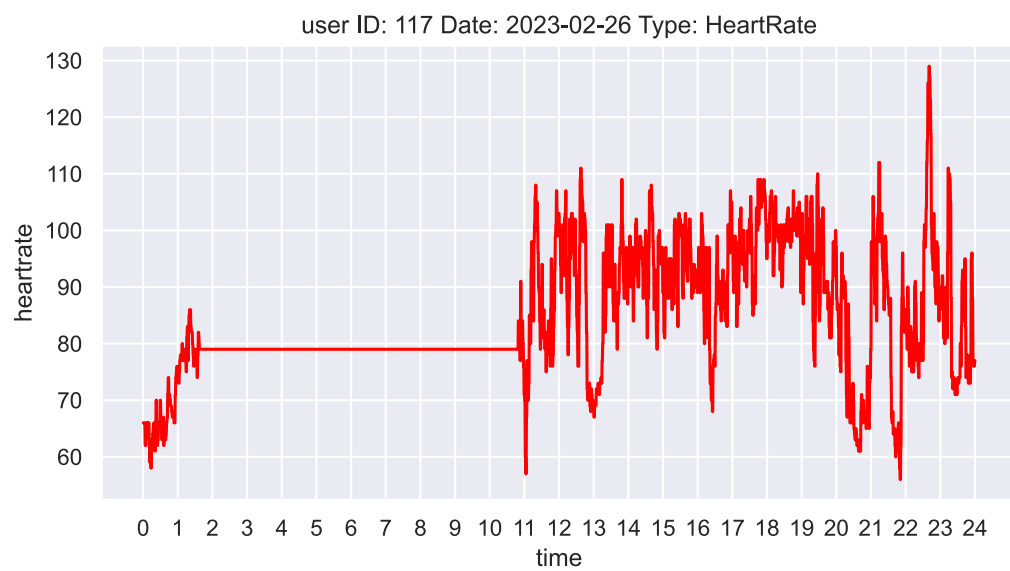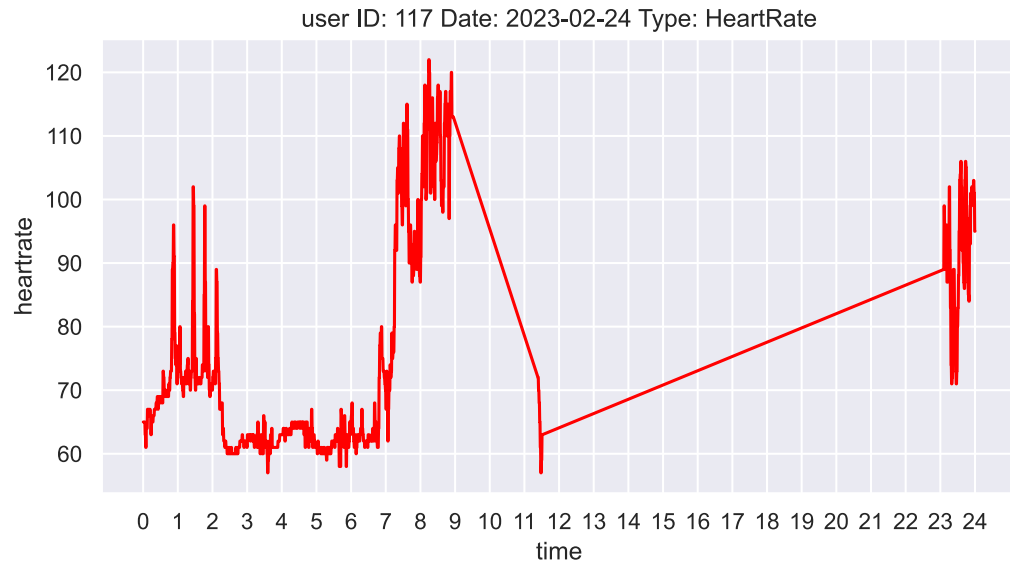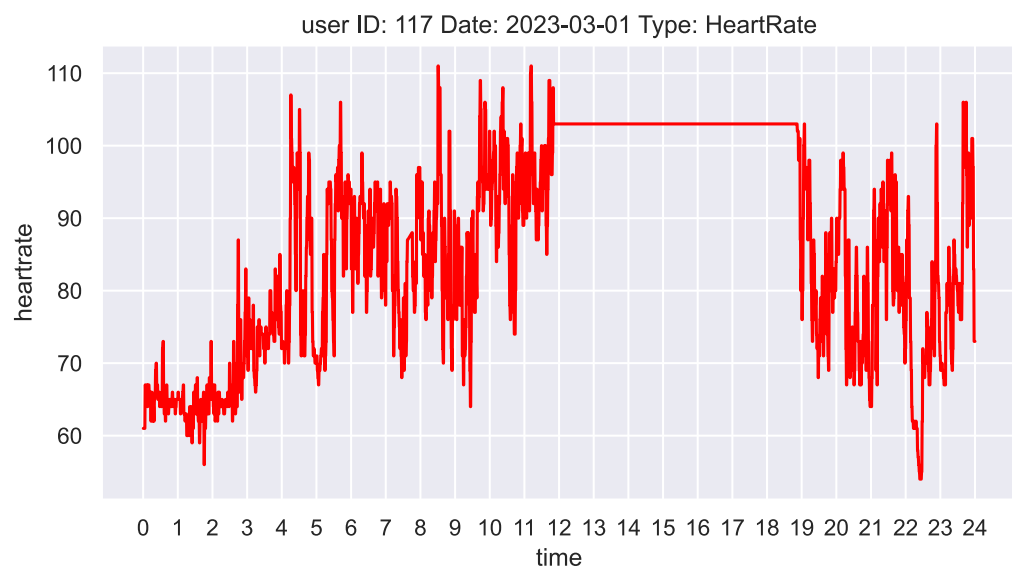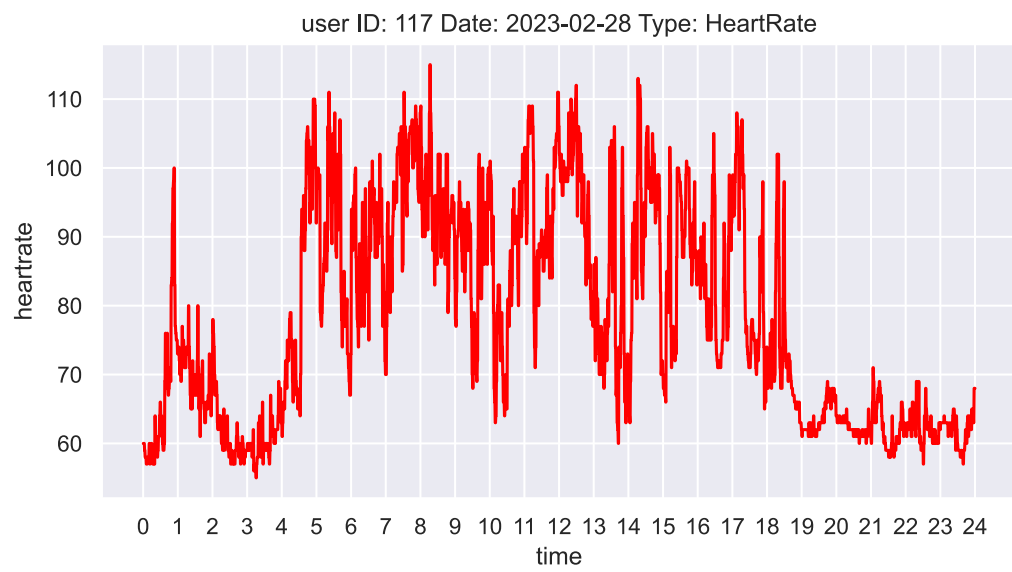
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user ID: 117 Date: 2023-02-16 Type: HeartRate

user ID: 117 Date: 2023-02-17 Type: HeartRate

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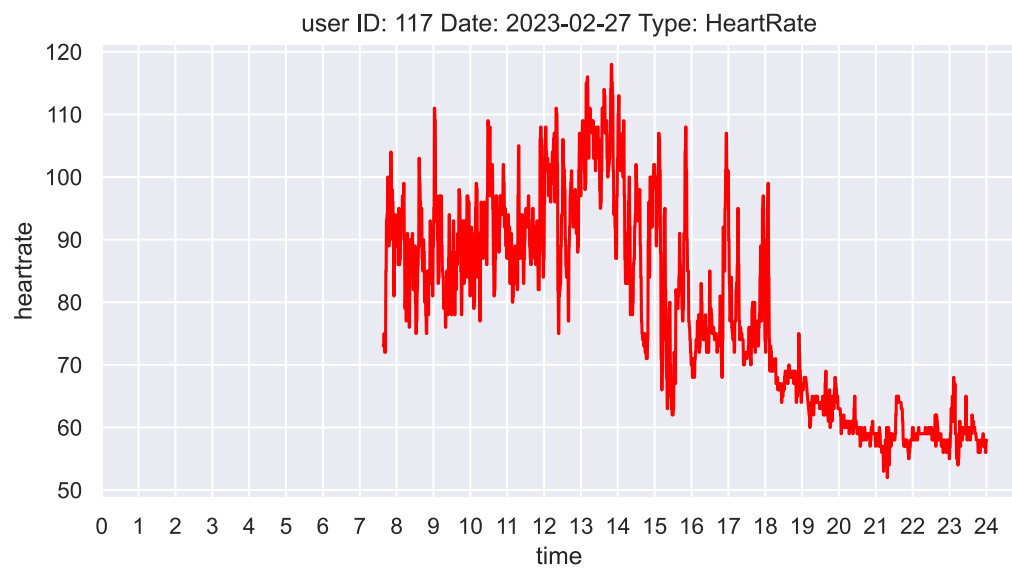user ID: 117 Date: 2023-02-21 Type: HeartRate
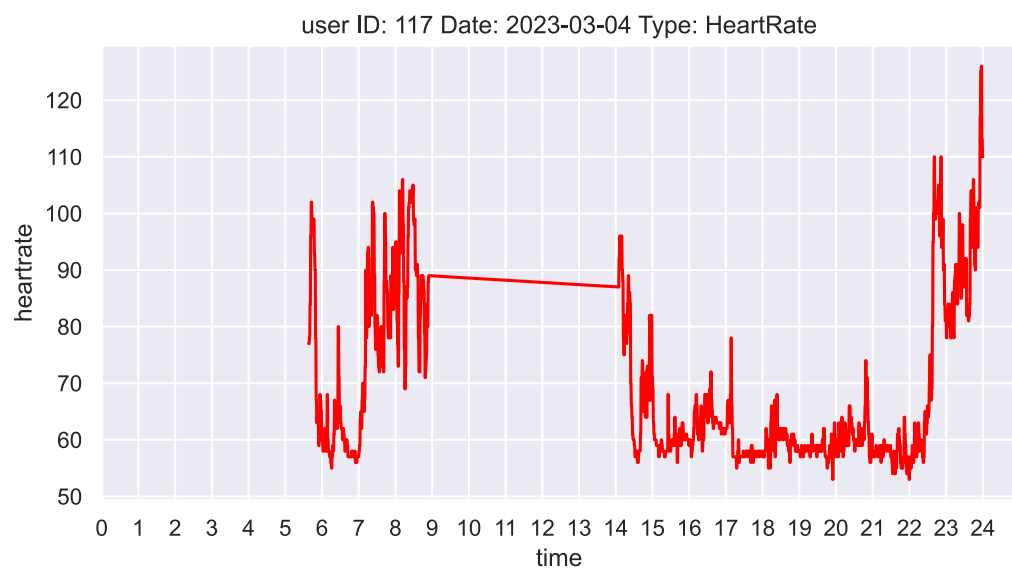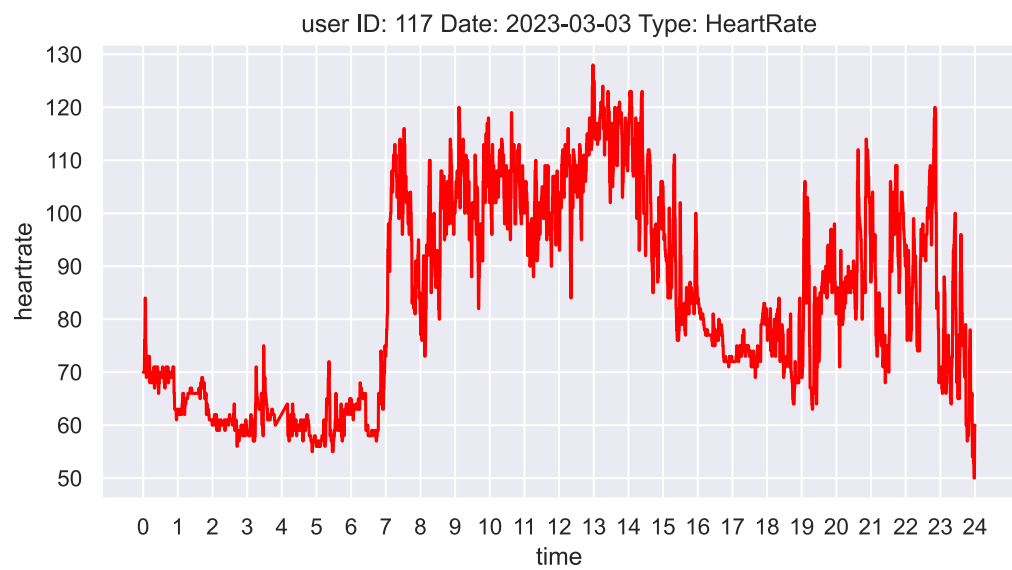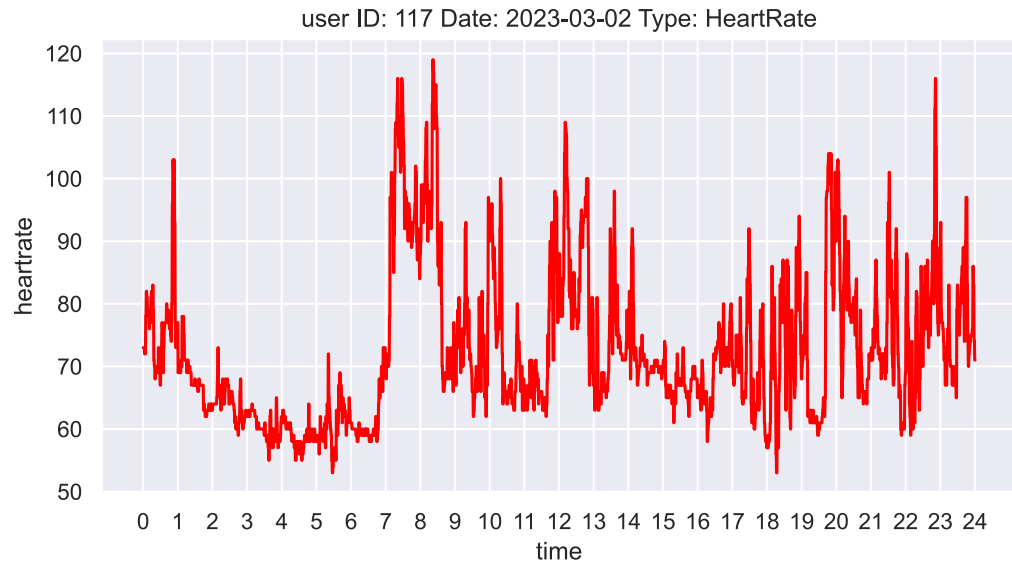

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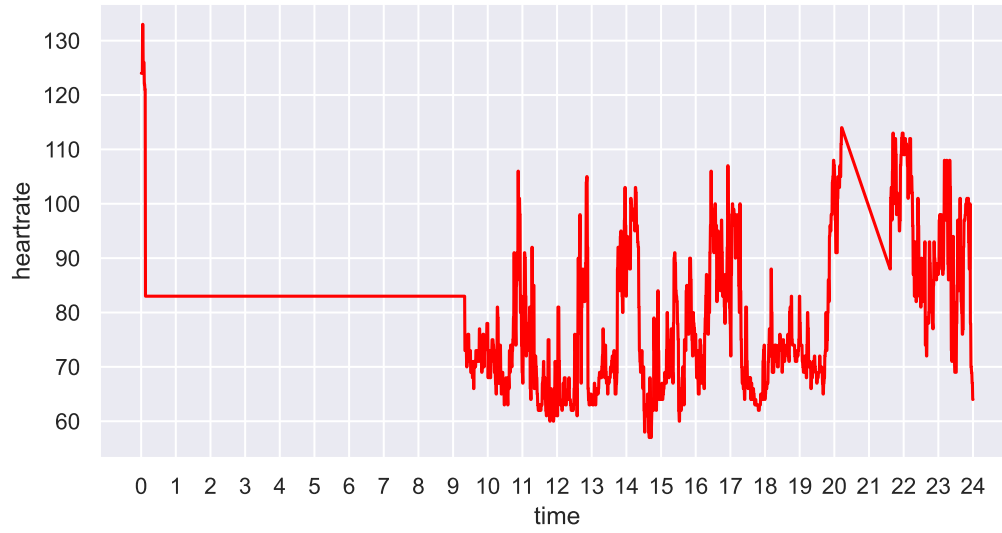user ID: 117 Date: 2023-02-23 Type: HeartRate

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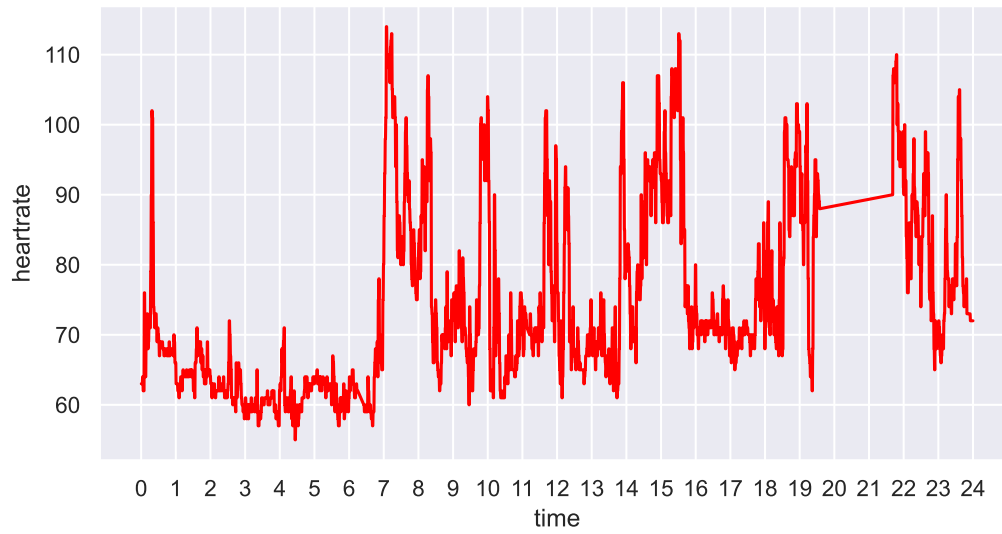user ID: 117 Date: 2023-02-27 Type: HeartRate

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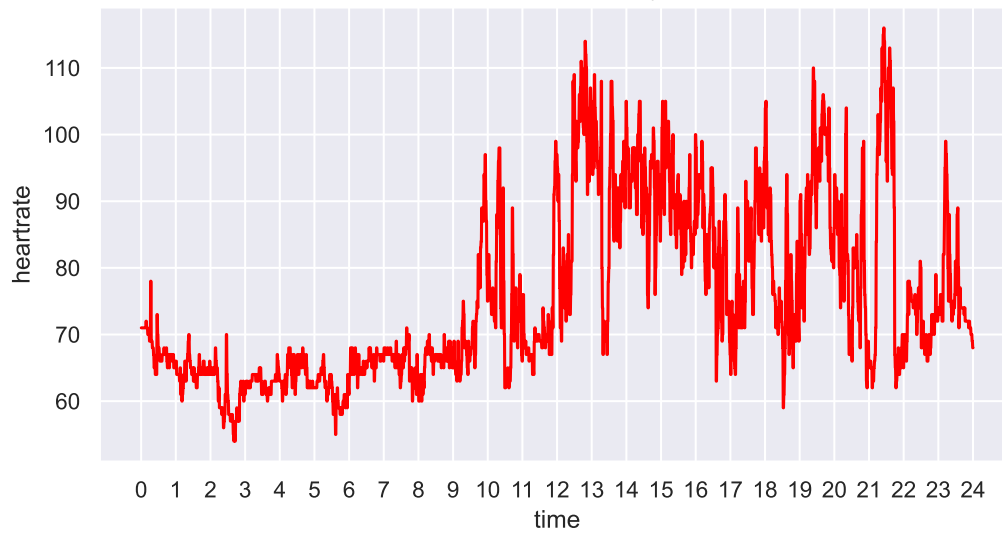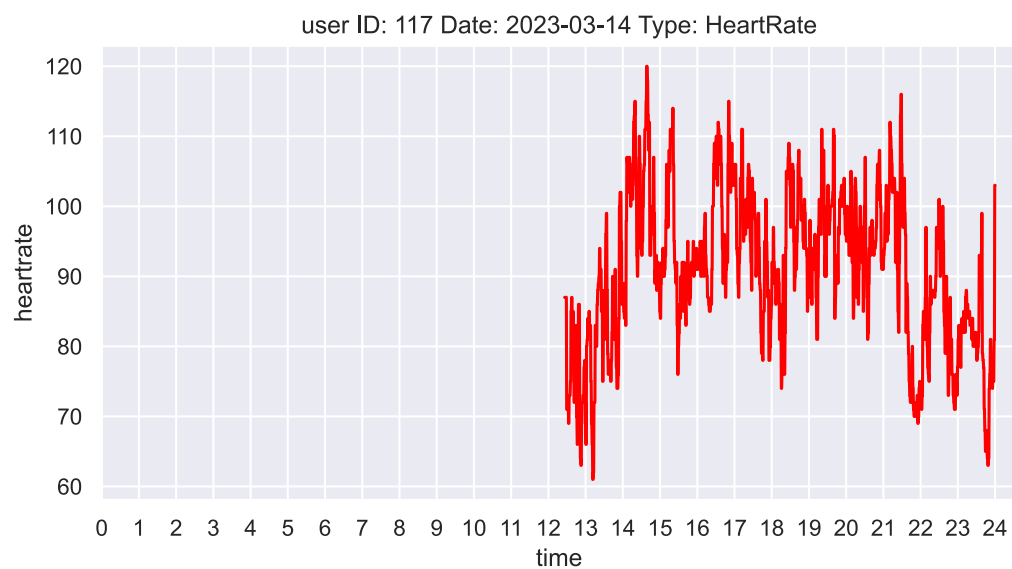

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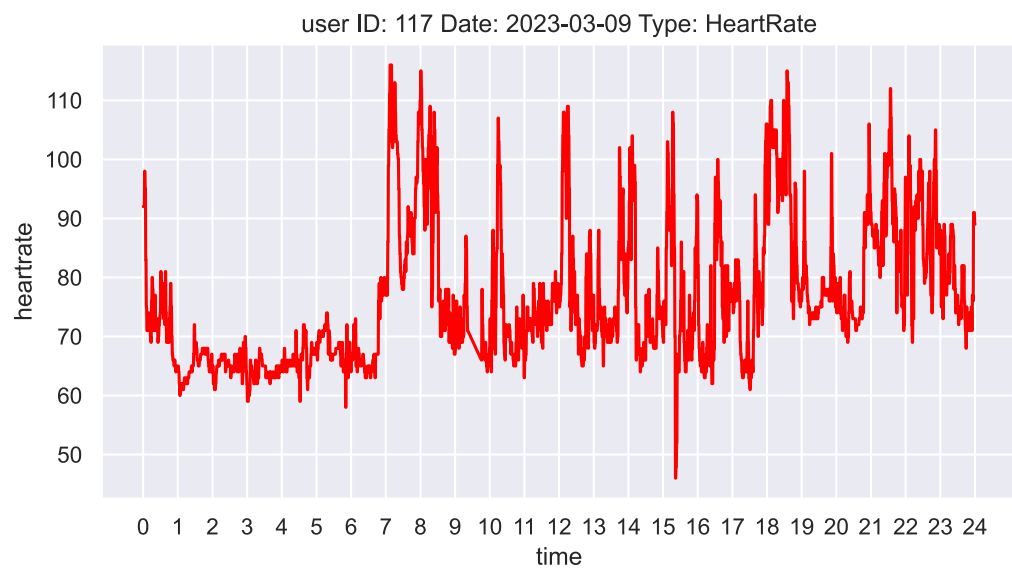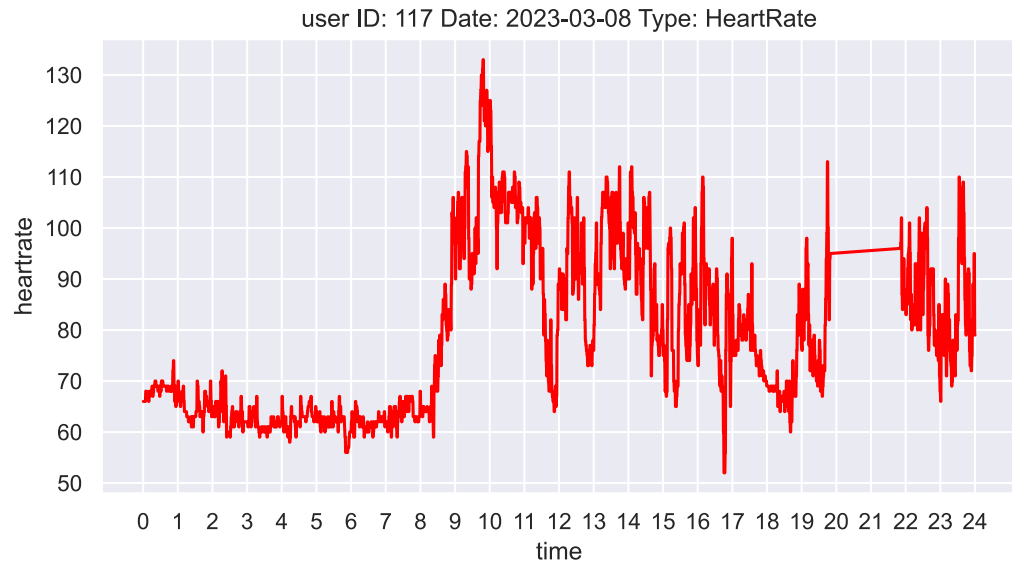
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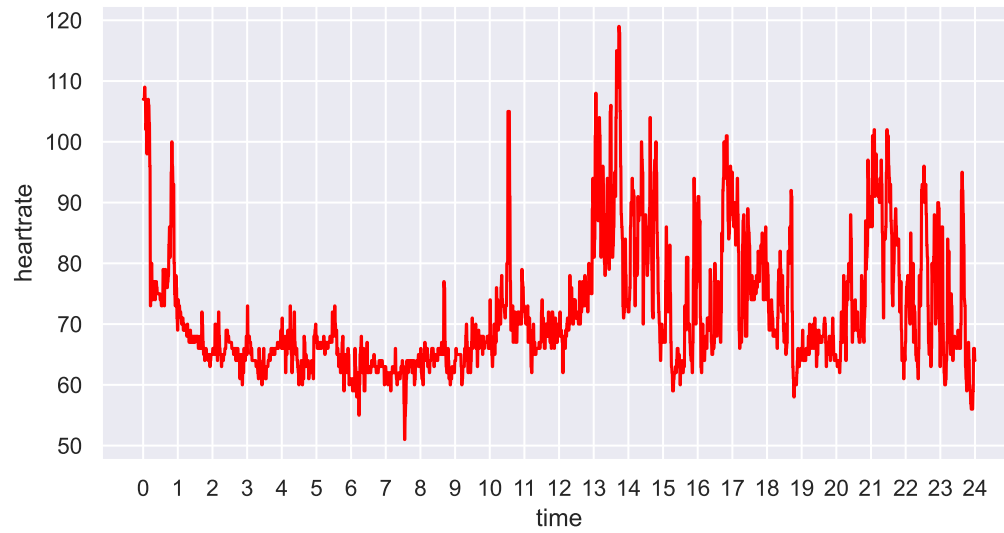
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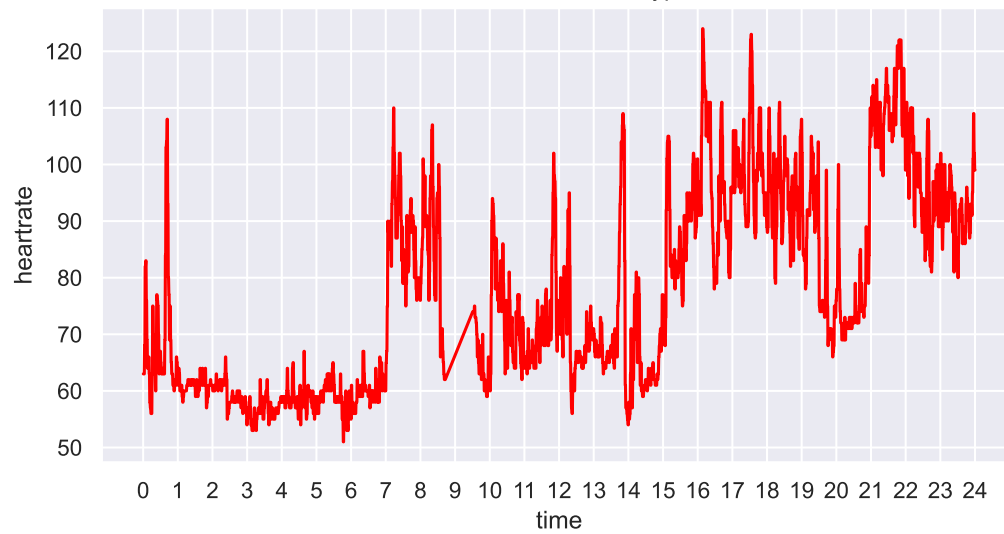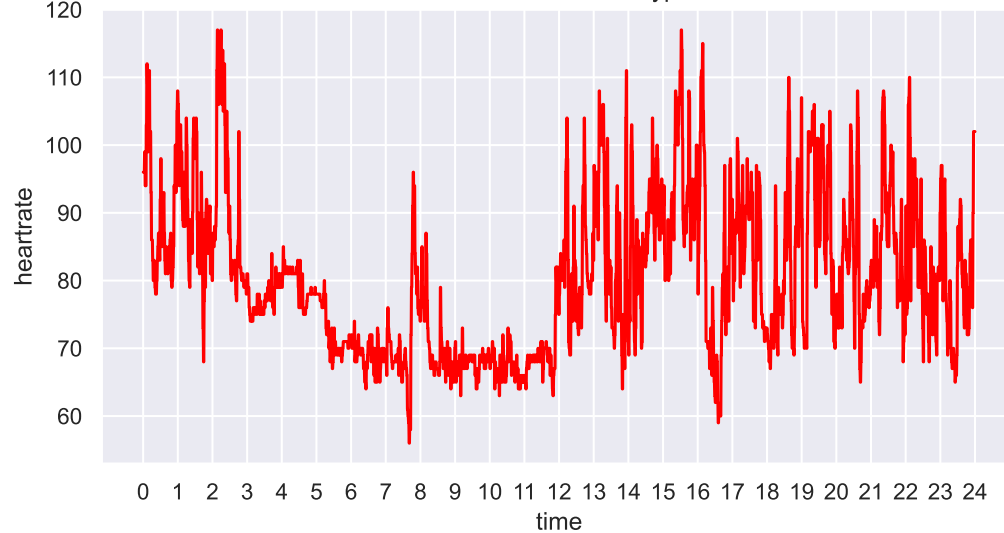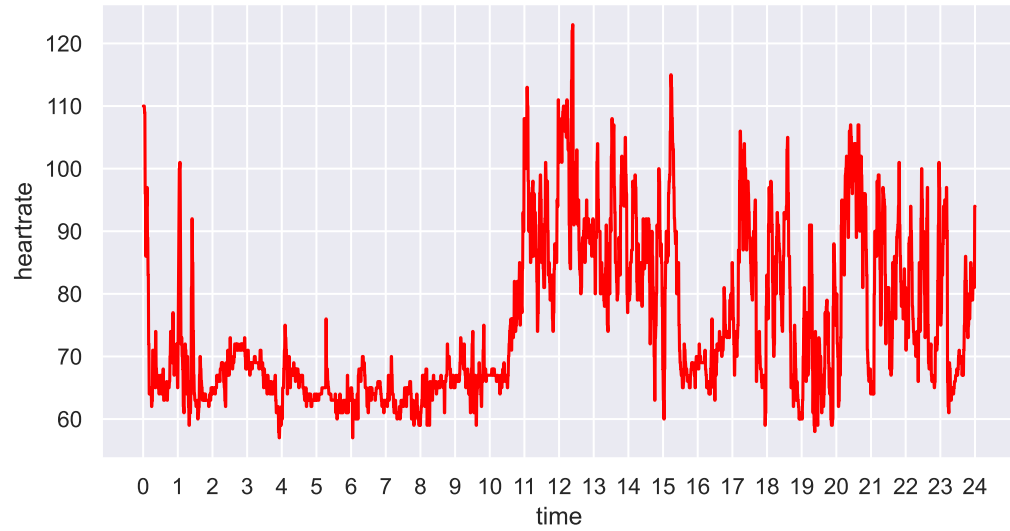

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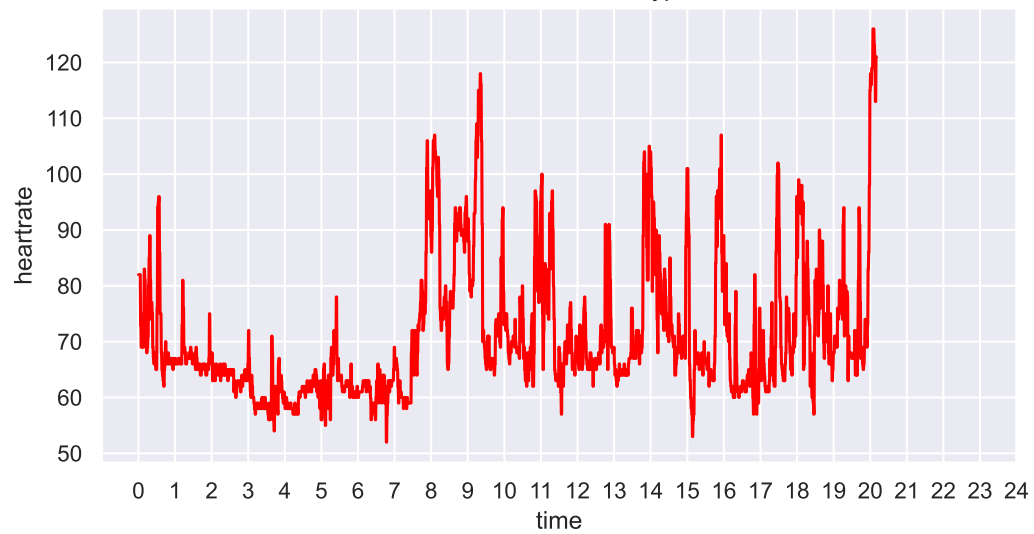user ID: 117 Date: 2023-03-16 Type: HeartRate

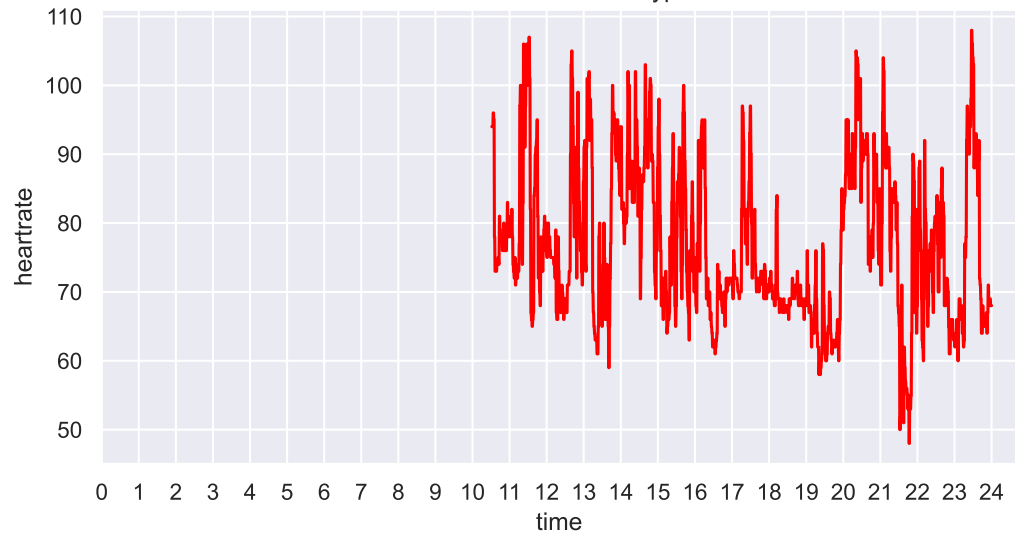user ID: 117 Date: 2023-03-17 Type: HeartRate

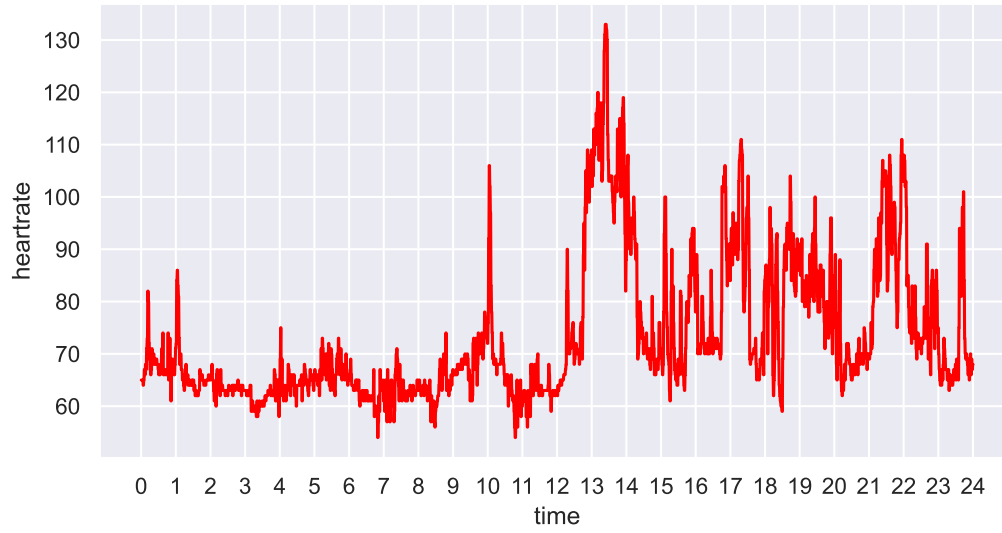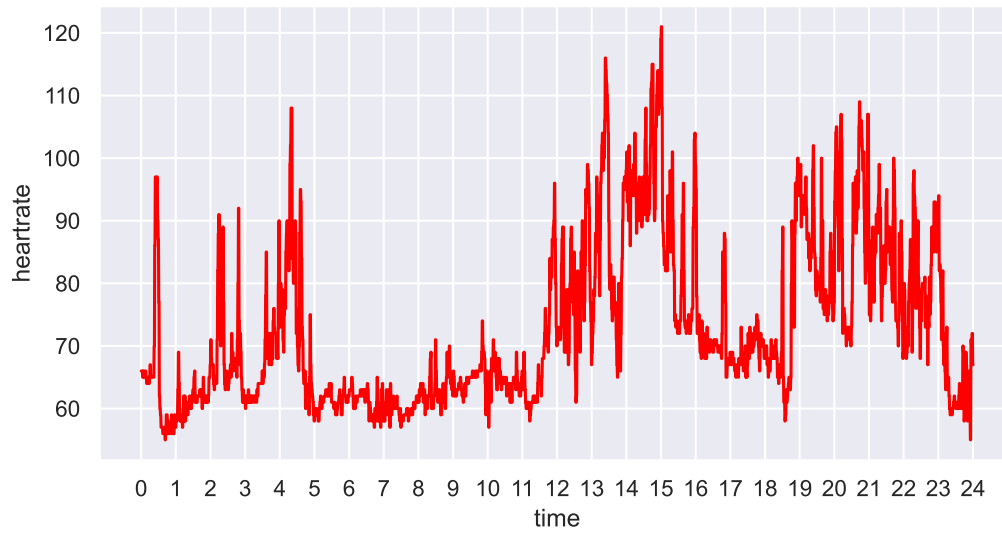user ID: 117 Date: 2023-03-18 Type: HeartRate

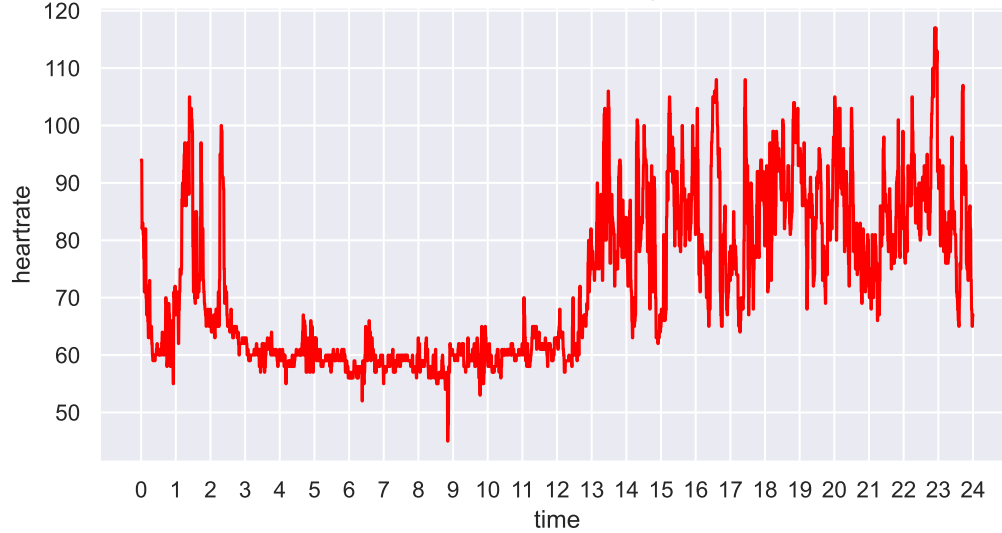user ID: 117 Date: 2023-03-19 Type: HeartRate

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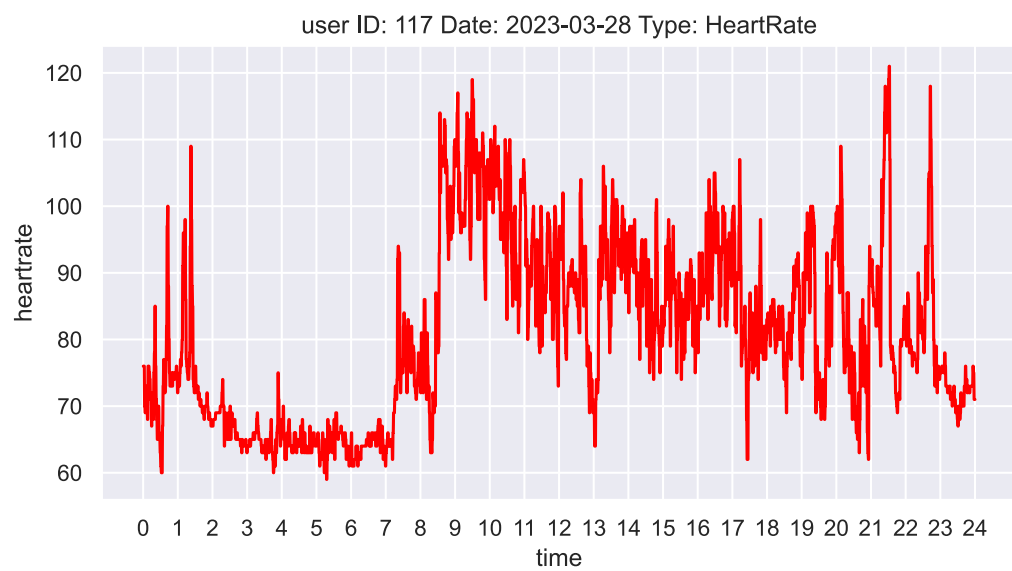
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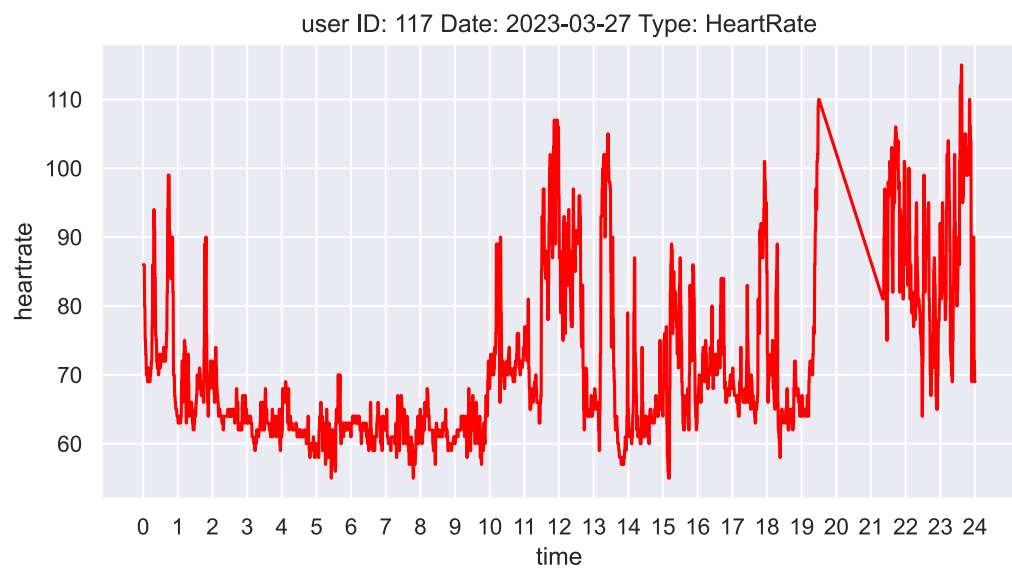user ID: 117 Date: 2023-03-27 Type: HeartRate
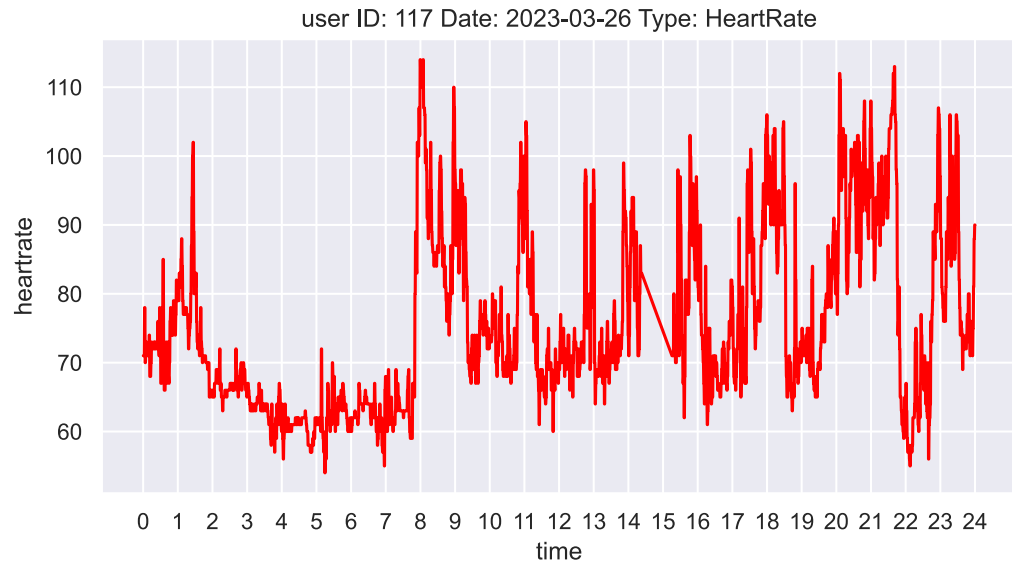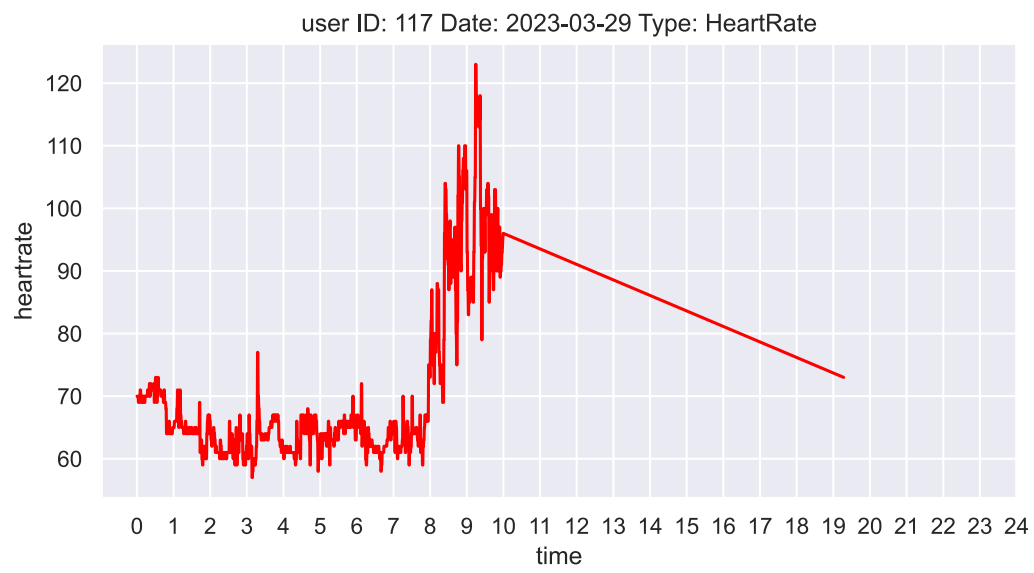

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In [ ]: