1. **Source code control**

The URL is (<https://github.com/ucl-comp0035/comp0035-cwi-King-in-black.git>)

1. **Linting**

I used black as python style linting. I installed it in the (.venv) virtual environment and use it to correct my coding style. The evidence of using linting is in Fig.17.

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Fig.17 the linting evidence

The linting software helps me to make my code cleaner and I can have a better view of the logic of the code when I program. After linting, it is easier for others to read my code have a better understanding on my code. Also, I checked through the python-app.yml to see whether there is an error in the format of the code.

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Fig.18 the linting part of python-app.yml

1. **Use of AI**

As somebody who is going to study machine learning in the master’s degree, I generally used ChatGPT 4.0 in the coding by exploring the ideas of preprocessing, construction of code and debug the existing function.

6.1) Search:

I searched online about how to preprocess of the time series data. I asked ChatGPT. They gave me the idea about using dynamic methods (rolling window and smoothing) to preprocess the data. I asked ChatGPT to explain the mathematical principles behind the smoothing and rolling window and let it give me a code sample to see that how I could construct the function. Also, I asked the question of the datetype information and learn how to convert due to sample provided by the ChatGPT.

6.2) Code construction:

Some of the code is just constructed by the Chatgpt and I adjusted it to adapt the requirements of the preprocessing task. The rolling\_window function and simple functions like histogram drawn function, boxplots drawn function and division of data frame according to Activity are constructed like what I mentioned.

6.3) Debug

Some of the complex functions like time\_stamp\_delete and interpolation are written by me. However, there were some mistakes which I could not figure out on the logic. In this case, I asked the help of ChatGpt4 to help me to debug the program. I copied the corrected program and adapted it into my program and learnt why I was wrong before.

The use of ChatGPT4 plays an important role in my study and make a positive effect on me.

It is really an important tool for me to make progress on learning.