System Requirements

* Matplotlib library - I utilised the features of the matplotlib library to identify and display patterns within the data set. Within my code I used a bar-chart to display the data to the user, this is because it is easier to read as compare different sales employees:

A graph of sales

Description automatically generated

My method of approaching this problem also meets the user requirements by providing a clean and easy way to analyse the data.

* Locally reading files – By locally reading files within multiple of the programs functions, this means that the data being read is secure and not open for a long amount of time.
* By including more comments/annotations within the code, other developers that choose to utilize / progress this code further will have an easier time identifying each of the functions in the code.
* Another library I utilized was the datetime library, this allowed me to properly format and identify different dates that were stored within the dataset. This also allows for easier readability for the user as dates are properly formatted.
* I have integrated my code into the existing code where applicable, this is because the code already in place has quite a lot of functionality already so replacing it with new code seemed unnecessary.

User Requirements

* Interface – I reused the old interface within the broken code and added / changed the menus when it was needed, this allows for users to have a familiar interface and not have to adapt to the new menu. This meant keeping the numbered interface throughout the entire program, giving the user an easy way to choose their options.
* Outputs – I chose to output text to the terminal as it was the most efficient and easy to read way to output text, though when it came to analysing data I used the matplotlib diary to export the data into graphs. This meant that the data was a lot more readable and easier to use.
* User error – I implemented error catchers within the menus to ensure that if the users made an error when typing in values, the program would know what to do with the un-useable data. This is the same for validating whether they inputted data within the ranges specified.

Things I could improve:

* Pattern management – Ensuring that I can identify any repeated code and utilize functions to optimize the code.
* Simplification – Identify any areas in the code which can be simplified, as well as improving the overall readability of the code.