Does the Insanity workout improve fitness levels?

Data analysis and interpretation

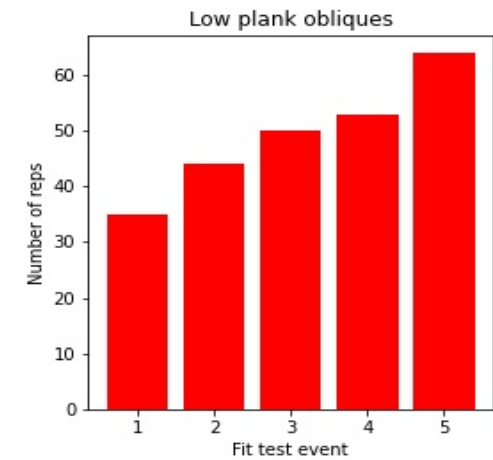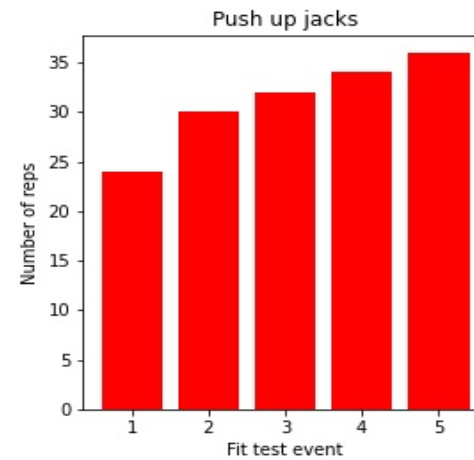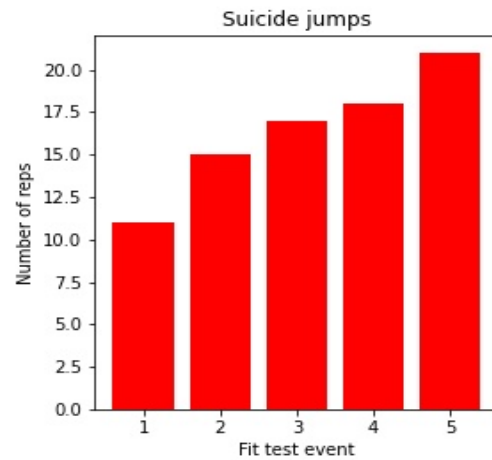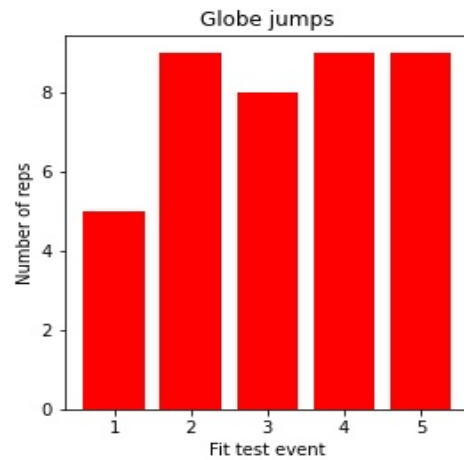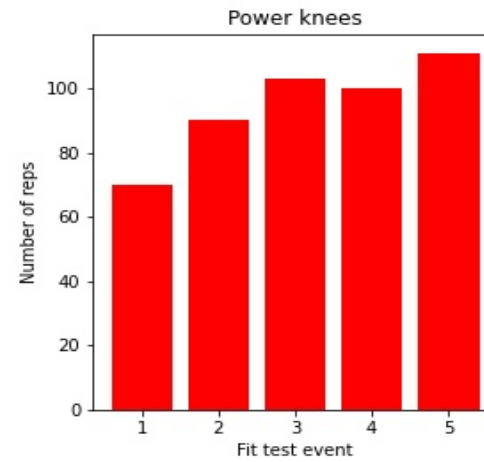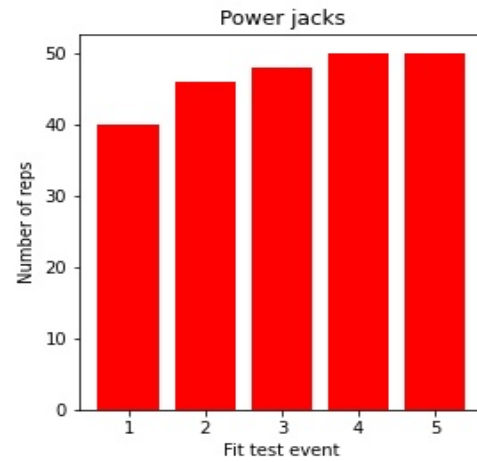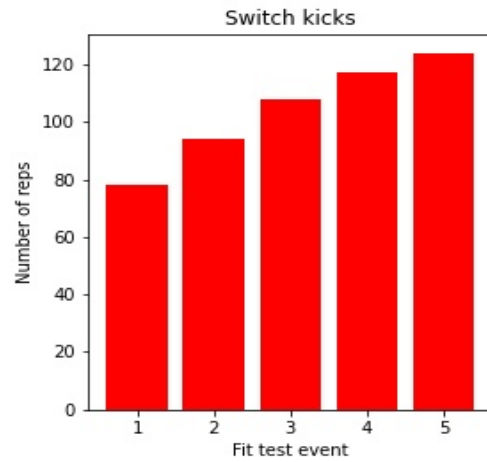### By Amy Birdee

Introduction

Aim of the project:

- Analyse and interpret the fitness test data from Insanity workouts and determine whether or not fitness levels are improved
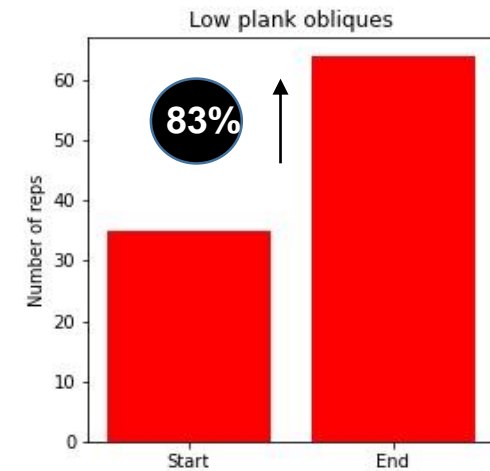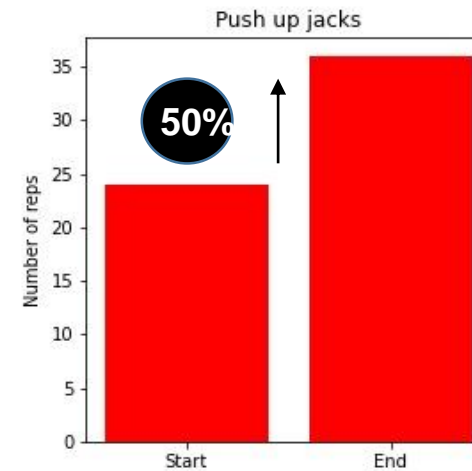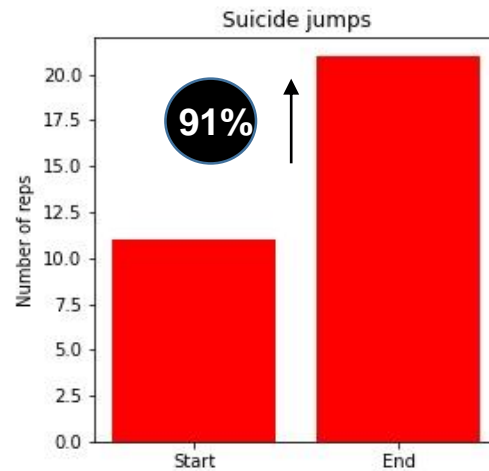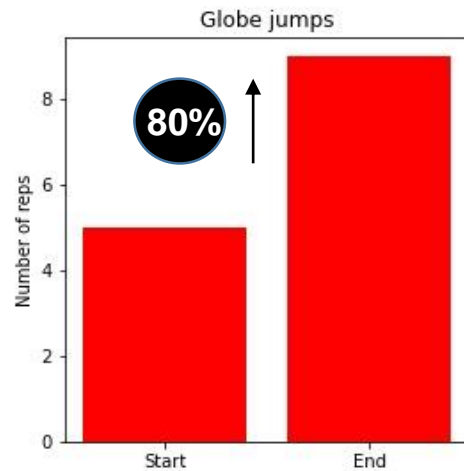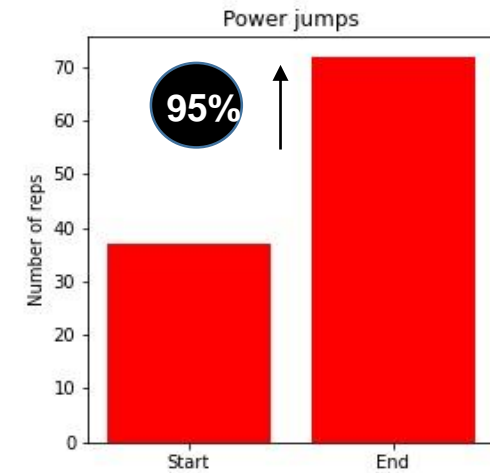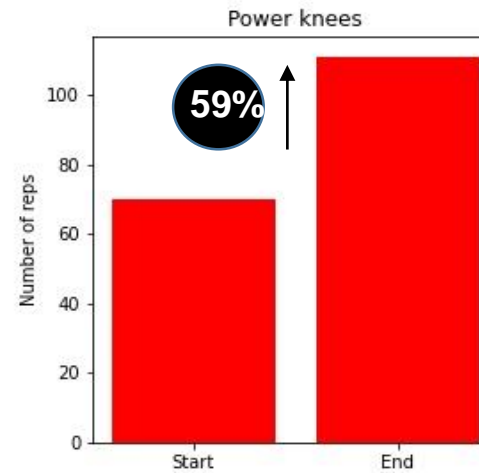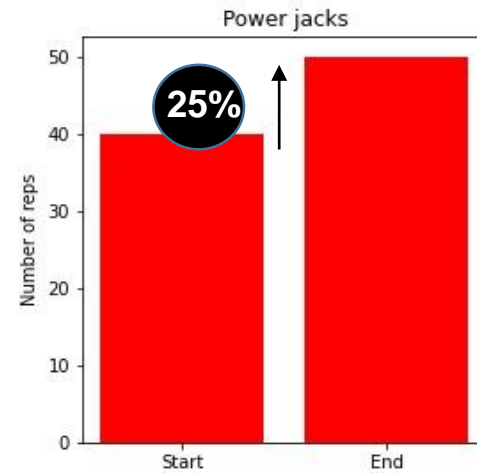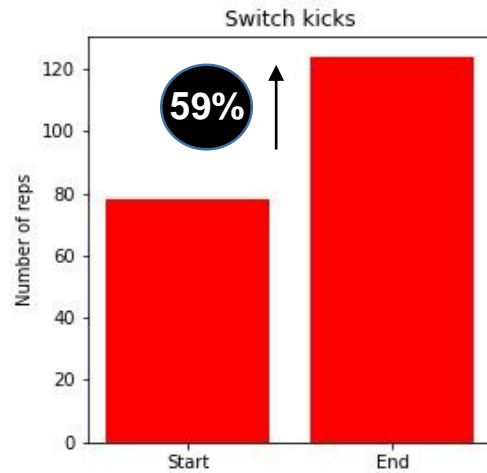
- Regression analysis with forecasting

Fit test analysis

Majority of exercises show improvement over time

Fit test analysis

Most noticeable improvement in power jumps

A note on regression analysis...

- A liner regression analysis was attempted on the data but with only 5 data points per exercise, the regression data were unrealistic

- An attempt was made to increase the number of data points to 25 using Python's Random module, but since the data points were on an ascending trajectory, this too yielded an unrealistic regression model

- The R^2 number was -44,936 reinforcing the fact that the model was a bad fit (a range between 0.0 and 1.0 indicates a good fit)

- The charts from the regression analysis have been included on the next slide for reference but these should not be interpreted as realistic outcomes

Linear regression analysis

Model proved not to be a good fit
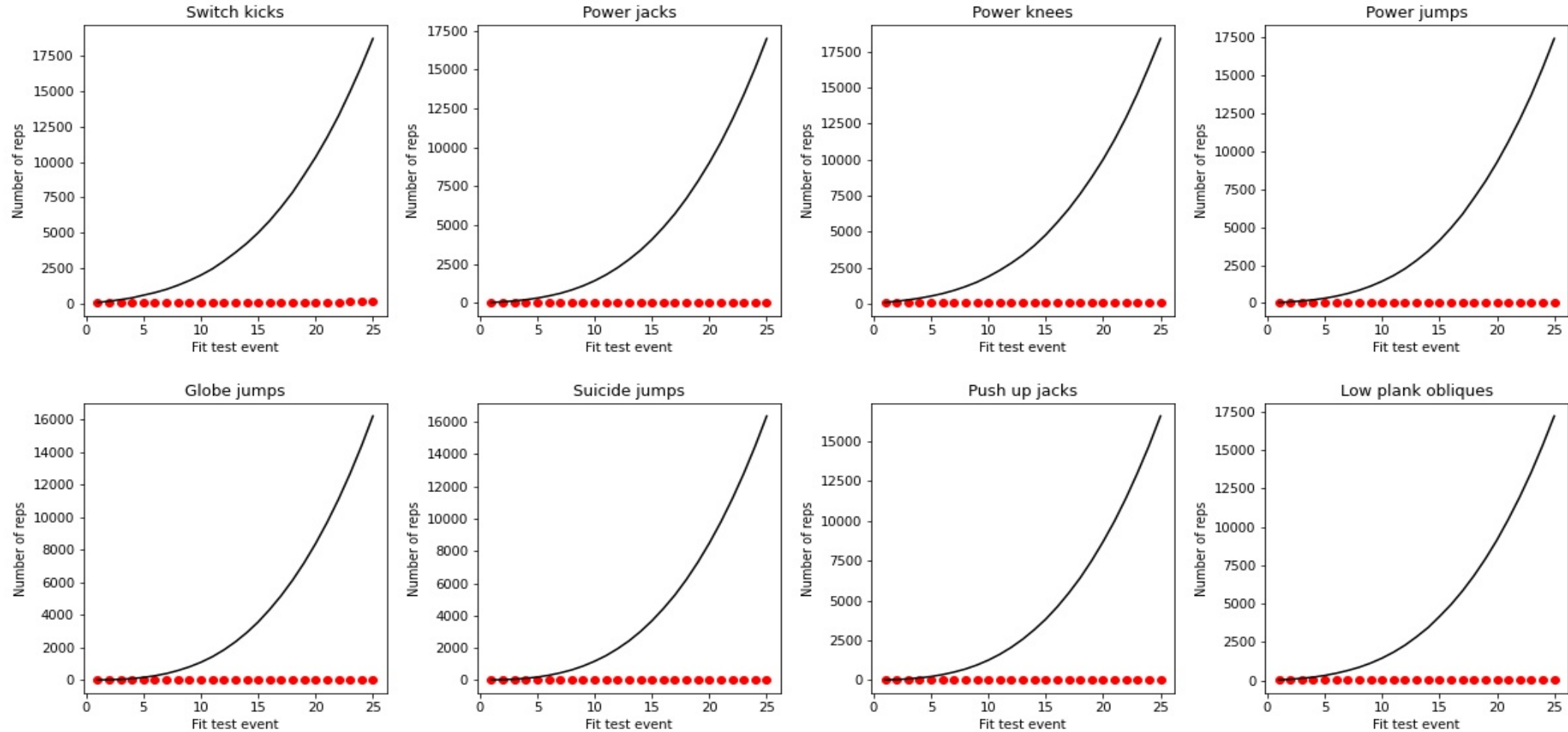
Conclusion

- The data showed an improvement in performance over time indicating that the Insanity programme does enhance performance

- The rate of improvement varied across exercises with power jumps showing the greatest improvement and power jacks showing the least

- There are just 5 fitness tests in the Insanity programme and the regression analysis shows that in excess of 25 are needed in order to run a valid regression model

- As a result, it was not possible to carry out any forecast analysis on this occasion

Thank you

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