

This document accompanies the Medical Screening Tests App.

This document is hosted at GitHub.

This document must be saved as a .PDF file to be readable at Github.

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#####
#                               ScreeningTest                               #####
#####
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#
# ScreeningTest: PROGRAM PURPOSE.
#
# Medical screening tests vaunting very high "general accuracy" can give
# staggering levels of false results when the prevalence of a disease is low.
# This program explores the effect the prevalence of an infection in a
# population on the usefulness of screening tests. The goal is to
# demonstrate that screening tests are complex and less reliable
# than commonly supposed.
#
# Inputs:
#   A GUI invites the user to enter the following medical test statistics.
#   Population:
#   Test Sensitivity:
#   Test Specificity:
#   Start of Prevalence Range.
#   End of Prevalence Range:
#   Prevalence of Interest:
#   CheckBoxes allowing the plotting of different statistics.
#
# Outputs:
#   (1) A plot with:
#       x axis. A range of disease prevalences.
#       y axis:
#           Positive Predictive Value.
#           Negative Predictive Value.
#           False Positives (NPV)
#           False Negatives (NPV)
#           General Accuracy (A somewhat misleading item !)
#           Prevalence of Interest (Vertical line).
#   (2) A Matplotlib menu permitting saving the plot, zooming etc.
#   (3) A CSV file with the plot data.(Optional)
#   (4) A print of the plot data. (Optional)
#
#
#####
```

## Deployment of A Python Streamlit App

- We base our Streamlit based web pages at Streamlits own site.
  - Streamlit account required.
- Streamlit runs our app from our source code stored on GitHub.
  - <https://docs.streamlit.io/streamlit-cloud/get-started/deploy-an-app>
  - Github account required. We have one.
  - When the installation package (in the Spyder project folder) is all ready it must be put in a github repository (repo) which is the Github equivalent of a project folder.
- Github documentation uses GitHub Flavored Markdown format (.MD files)
  - About writing and formatting on GitHub: (GitHub Flavored Markdown)
    - GitHub combines a syntax for formatting text called **GitHub Flavored Markdown** with a few unique writing features.
  - So we need a MD file editor.
    - <https://www.writage.com/> clips into ms word.
- Create a file called "requirements.txt" in the project folder.
  - requirements.txt is pip based.
  - Populate requirements.txt using pip.freeze.
    - [https://pip.pypa.io/en/stable/cli/pip\\_freeze/#pip-freeze](https://pip.pypa.io/en/stable/cli/pip_freeze/#pip-freeze)
- Exclude from requirements.txt any python builtin requirements.
  - List of builtins to be removed: <https://docs.python.org/3/py-modindex.html>