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| Test Data | Reason | Expected Output | Actual Output |
| Invalid file name | Check if it can handle incorrect file name. | Output “Error: File not found”. | “Error: File not found” outputted. |
| File name without path entered | Check handling of file name. | Output “Error: File not found”. | “Error: File not found” outputted. |
| Full correct path entered | Check handling of file name. | Main menu outputted and user prompted to choose an option. | Main menu displayed in list. The user is prompted to choose an option. |
| From main menu “one” is entered. | Check menu handling. | User is told it’s an invalid option. | Output “Invalid option. Please try again” and menu reprinted. |
| From main menu “5.” is entered. | Check menu handling. | User is told it’s an invalid option. | Output “Invalid option. Please try again” and menu reprinted. |
| From main menu “Exit the Program” is entered. | Check menu handling with capitalisation. | Input converted to all lowercase. The program exits. | Program exits |
| From main menu “aGE gROUP dISTRIBUTION” is entered. | Check menu handling with capitalisation. | Input converted to all lowercase. User shown Age Group Distribution. | *Appendix 1* |
| From main menu “Urban” is entered. | Check partial input. | User is told it’s an invalid option. | Output “Invalid option. Please try again” and menu reprinted. |
| From main menu “4” is entered. | Checks number input and Top 5 Populated Regions chart. | Top 5 populated regions shown a bar chart. Shows New York, Los Angeles, Chicago, Houston and Philadelphia. | *Appendix 2* |
| From main menu “1” is entered. | Checks region list printing | A list of all regions is printed, and user is prompted to enter one of them. | List of regions outputted, and user prompted to enter region name. |
| From main menu “1” is entered then “Pheonix” is entered. | Checks incorrect region input handling. | User is told it an invalid input. | Output “Error: Region not found.” And user is returned to menu. |
| From main menu “1” is entered then “9” is entered. | Checks incorrect region input handling. | User is told it an invalid input. | Output “Error: Region not found.” And user is returned to menu. |
| From main menu “1” is entered then “atlanta” is entered. | Checks region demographics and capitalisation. | User is shown Atlanta’s population demographics. | Atlanta’s population demographics shown by gender, age groups and land designation. |
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## Appendix 1

A pie chart with numbers and a few different colored circles

Description automatically generated with medium confidence

## Appendix 2

A screenshot of a graph

Description automatically generated