Assignment 2
Task 9

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Answer

In the current version of the BAT system, the source code comprises of only 451 lines, excluding blank and comment lines. With 3 identified defects, we can alculate the defect density as follows:

Defect Density

$= 3/451$

$= 0.00665 \text{ defects per line of code}$

To estimate the number of defects in the full-scale version of BAT, which the full source code comprises of 9842 lines of code, excluding blank and comment lines as well. As we assume that the defect density will remain consistent, thus we can apply the calculated defect density to predict the number of defects such as follows:

Estimated Number of Defects

$= 0.00665 \times 9842$

$= 65.45$

$\approx 65 \text{ defects (or known as bugs)}$

From this estimation, we can conclude that the full version of the BAT system will likely have around 65 defects, with the pre-condition that the code style, complexity and quality remain consistent with the current version.