1. Describe an appropriate reduction to show that the following function is not computable, where $P$ is any program that takes exactly one input $x$. Don't forget to argue that your reduction is correct!

$$\text{allstop}(P) = \begin{cases} 
\text{True} & \text{if } P(x) \text{ halts for every input } x, \\
\text{False} & \text{otherwise.}
\end{cases}$$
2. Describe an appropriate reduction to show that the following function is not computable, where $P$ is any program that takes exactly one input $x$. Don't forget to argue that your reduction is correct!

$$\text{steps}(P, x) = \begin{cases} 
\text{the number of lines of code executed by } P \text{ on input } x, & \text{if } P(x) \text{ halts,} \\
0 & \text{otherwise.}
\end{cases}$$