

Simple Project Ideas

Level 1	<p>Allow user-defined coefficients for a linear function $f(x) = ax + b$</p> <p>Given two hard-coded functions $f(x)$ and $g(x)$, determine which is larger at a user-defined input</p> <p>Given a hard-coded function $f(x)$ and a user-defined domain $[a, b]$, find the maximum value of $f(x)$ on $[a, b]$</p> <p>Graph $y = f(x)$!</p>
Level 2	<p>Given a hard-coded function $f(x)$ and a user-defined domain $[a, b]$:</p> <ul style="list-style-type: none">Determine A, B such that $A \leq f(x) \leq B$Locate all roots of $f(x)$ on $[a, b]$ to 0.1 precisionFind all relative maxima of $f(x)$ on $[a, b]$
Level 3	<p>Given a hard-coded function $f(x)$</p> <ul style="list-style-type: none">Approximate $f'(c)$ for a user-defined c <p>Given a hard-coded function $f(x)$ and a user-defined domain $[a, b]$</p> <ul style="list-style-type: none">Solve $f(x) = k$ to 0.01 precision (<i>efficiently</i>)Locate points of inflection of $f(x)$ on $[a, b]$