

## extrema of a function

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one of the most important applications of calculus is optimization of functions

This is basically understanding the behavior of a function f on a given interval I

- Does f have a maximum?
- Does f have a minimum?
- Where is the function increasing?
- Where is the function decreasing?

We use derivatives to answer these questions and at the end of today's lecture you'll see how we even can use derivatives to approximate a function...

## suoclasses of extrema