

Can cut and paste from the pdf using ctrl-c in the pdf previewer and then ctrl+shift+v in the Julia REPL.

```
julia> xminus(a,b,c)=(-b-sqrt(b^2-4*a*c))/(2*a)
xminus (generic function with 1 method)
```

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xminus (generic function with 1 method)
```

```
julia> xplus(1,1,-5)
1.79128784747792
```

```
julia> xminus(1,1,-5)
-2.79128784747792
```

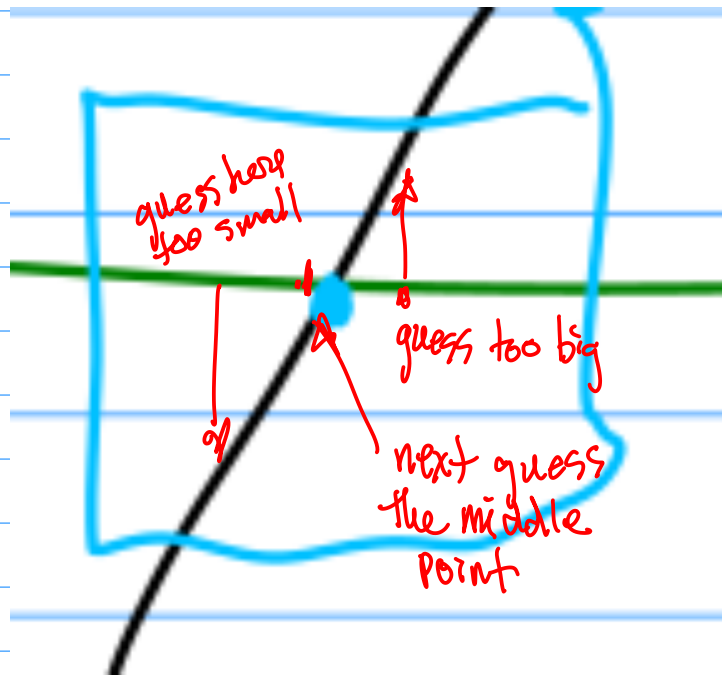
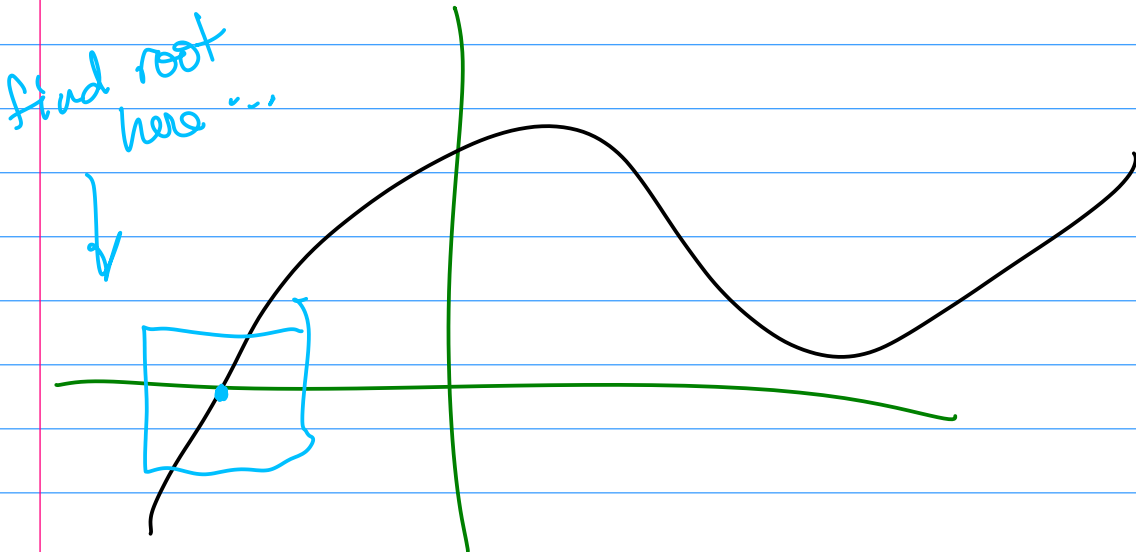
How to preview a pdf before uploading

```
$ ls
lab01.jl lab01.out submit01.pdf
$ evince submit01.pdf &
```

Bisection method ...

Need some notion of too big or too small.

Example in book: finding roots of a continuous function ...



The idea is easy ... Can you write this in code using a loop? Estimate the error also ...

Example: find $\sqrt{2}$.

$$f(x) = x^2 - 2$$

then $f(x) > 0$ if x is too big
 $f(x) < 0$ if x is too small

$f(x) = 0$ answer...

on a computer almost never find the exact answer, but error bounds are an approximation

$a = 0$ too small guess $b = 2$ too big guess

The real answer is in the interval $[a, b] = [0, 2]$

guess the midpoint $c = \frac{a+b}{2} = \frac{0+2}{2} = 1$

$f(1) = 1^2 - 2 < 0$ too small?

Update the bounds.

$a = 1$ too small guess $b = 2$ too big

The answer is in the interval $[a, b] = [1, 2]$