The following is the code for evaluating a definite integral of a given function by a Numerical Method called Trapezoidal Rule.

DOWNLOAD:

```
//Trapezoidal Rule
//Evaluates the definite integral of a function f(x), from a to b.
//Written By: Manas Sharma(www.bragitoff.com)
funcprot(0);
function ans=trapez(a, b, n, f)//function definition of simpson
    h=(b-a)/n;
    sum=0;
    for i=1:n-1
        x=a+i*h;
        sum=sum+2*f(x);
    end
    ans=(h/2)*(f(a)+f(b)+sum);
endfunction
```

You can either copy the code above and save it as a .sci file or download the file . Once you run the code, the function '*trapez(a,b,n,f)*' can be called by other programs or even in the console.

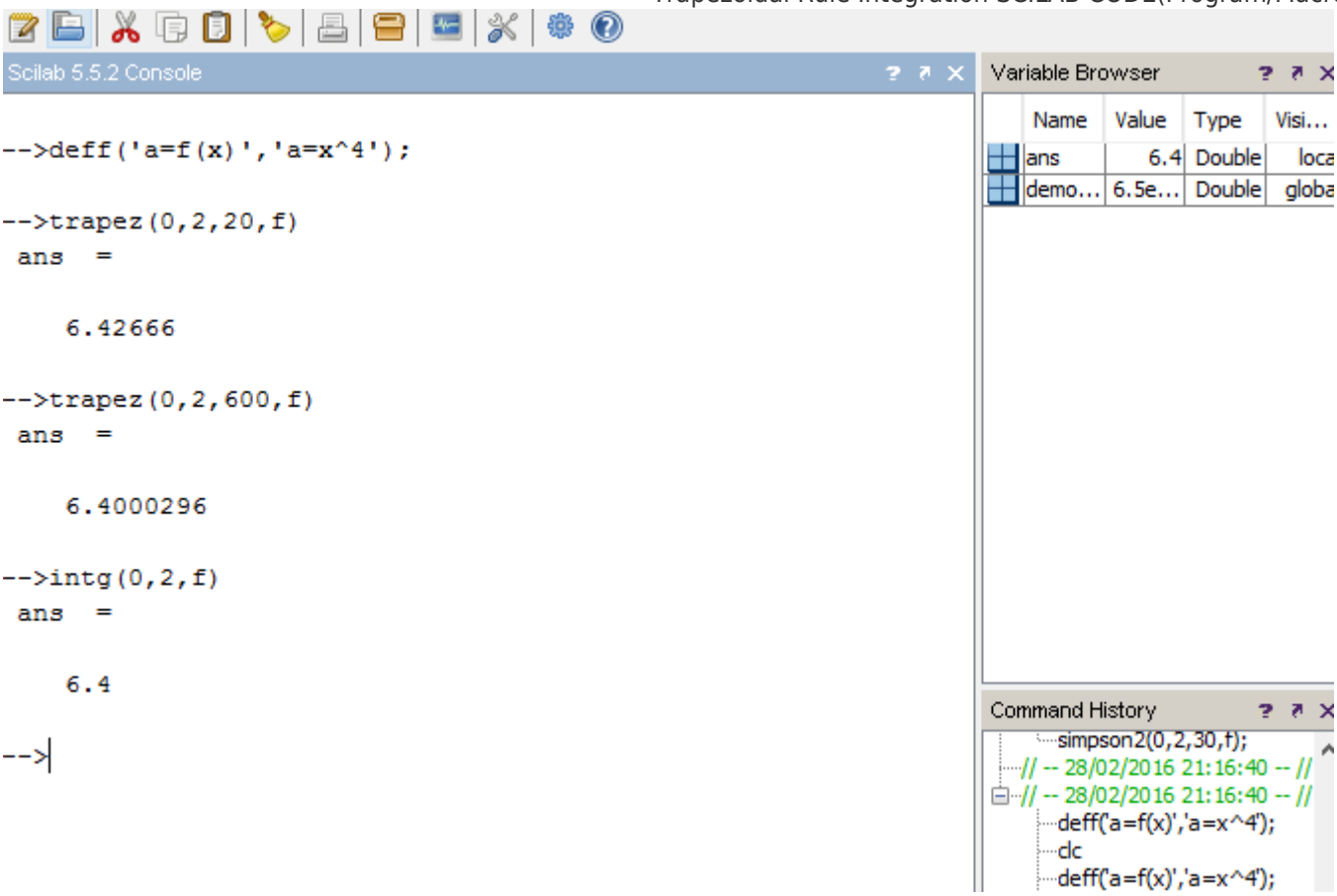
Function syntax:

trapez(a,b,n,f)

where,

a=initial limit(real no.)
b=final limit(real no.)
n=no. of sub-intervals(the higher the value of 'n' the better is the result.

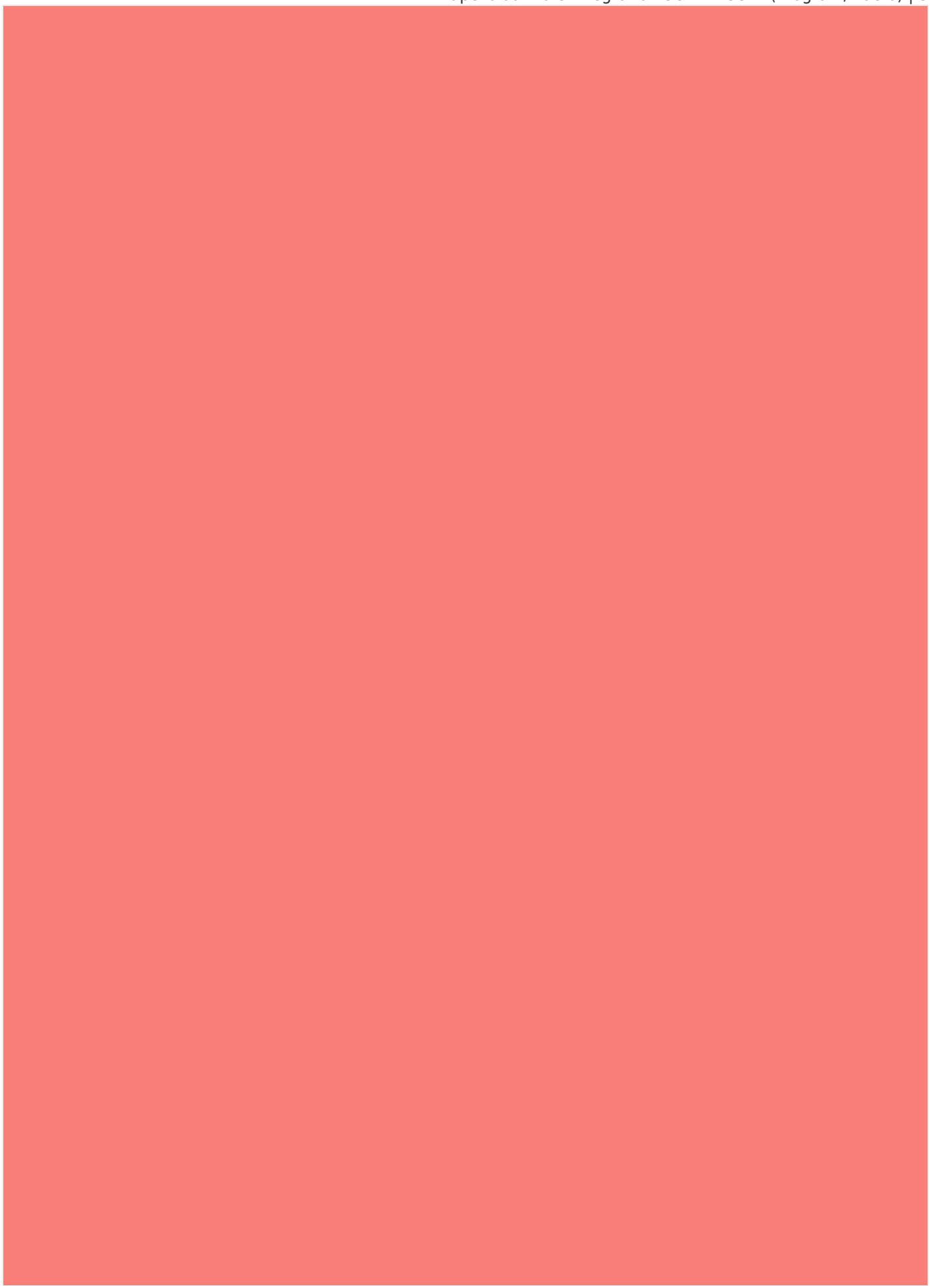
Example:
The following code snippet evaluates the integral of 1/(1+x^2) from 0 to 2.

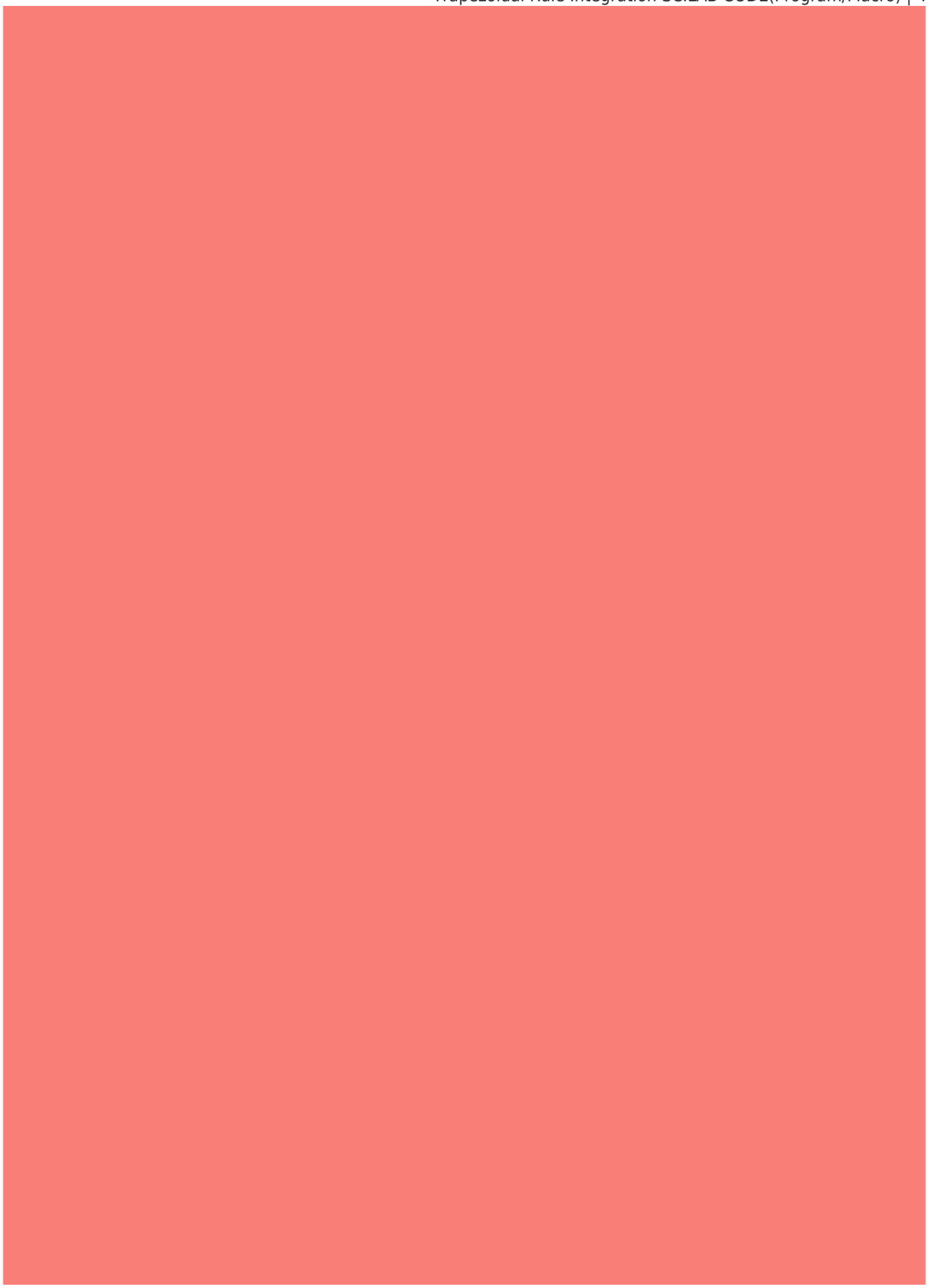


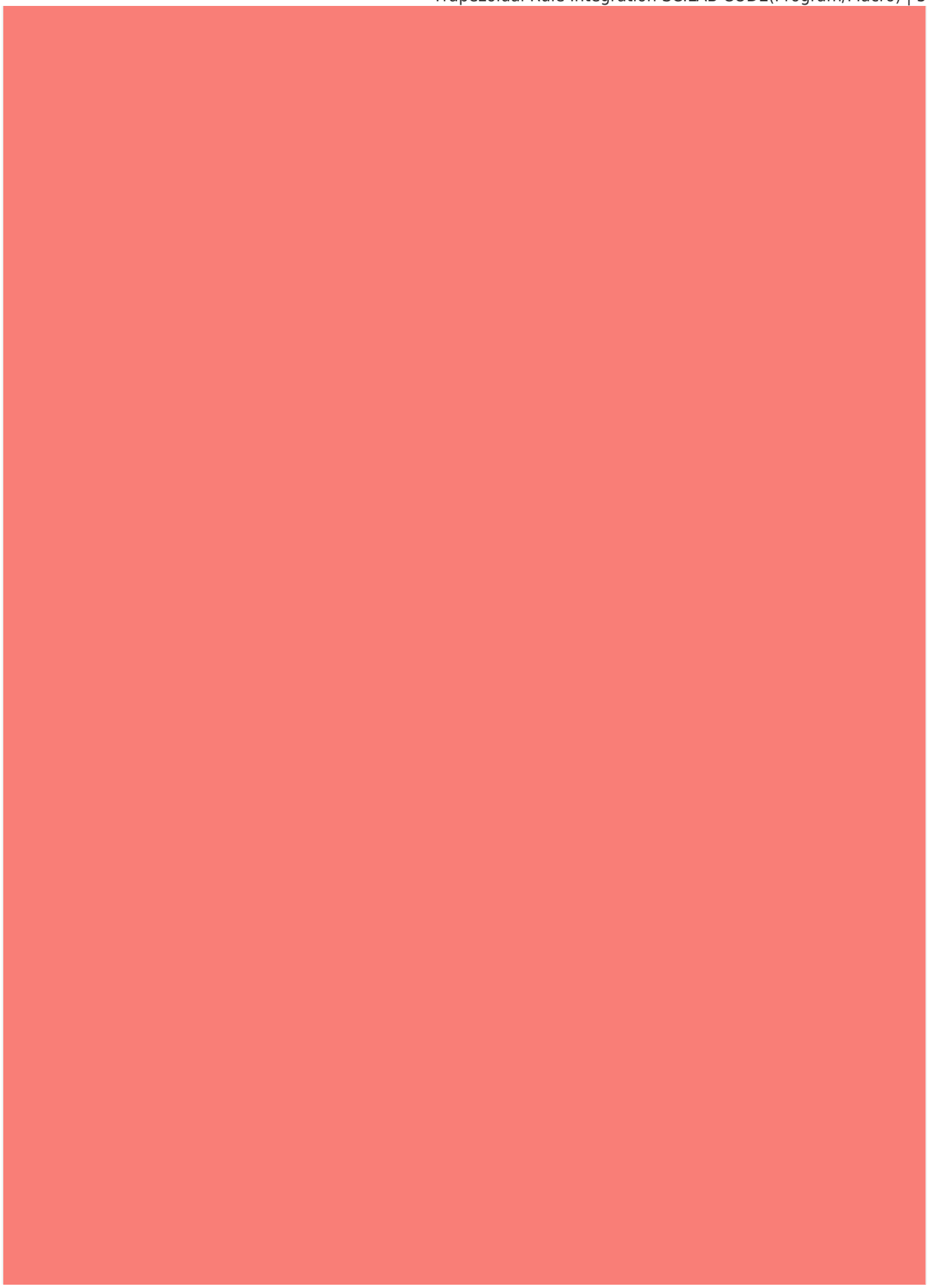
Manas Sharma

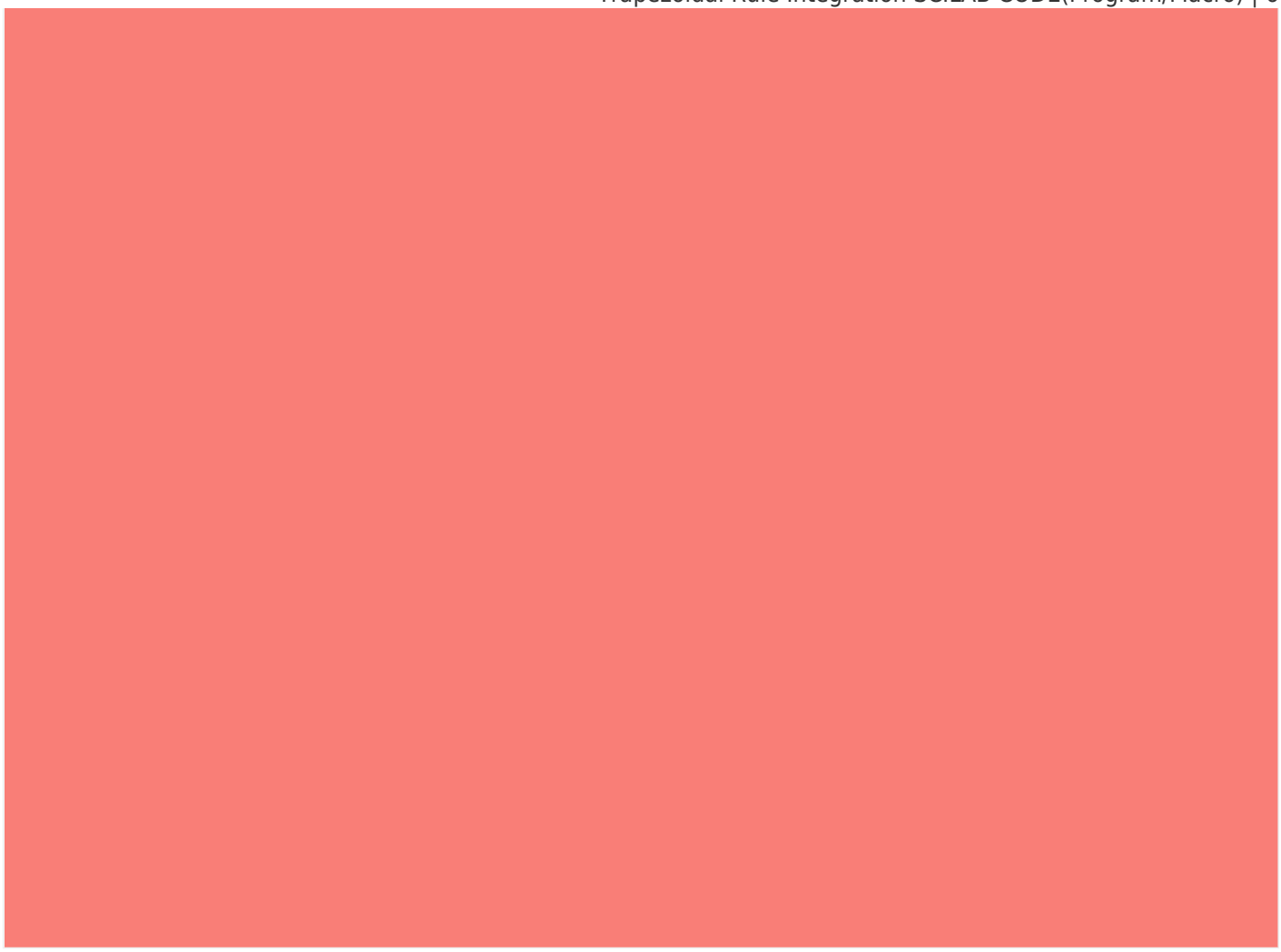
I'm a physicist specializing in computational material science with a PhD in Physics from Friedrich-Schiller University Jena, Germany. I write efficient codes for simulating light-matter interactions at atomic scales. I like to develop Physics, DFT, and Machine Learning related apps and software from time to time. Can code in most of the popular languages. I like to share my knowledge in Physics and applications using this Blog and a YouTube channel.

manas.bragitoff.com/









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