

# Project 3 - FYS4150

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We provide an overview of how to structure a scientific report. For concreteness, we consider the example of writing a report about an implementation of the midpoint rule of integration. For each section of the report we briefly discuss what the purpose of the given section is. We also provide examples of how to properly include equations, tables, algorithms, figures and references.

## I. INTRODUCTION

*should or could be done in the future.*

## II. METHODS

### The algorithm

use equation [1]

## III. RESULTS

## IV. DISCUSSION

## V. CONCLUSION

*In this section we state three things in a concise manner: what we have done, what we have found, and what*

Algorithm 1 Midpoint rule for integration	
<b>procedure</b> MIDPOINT RULE( $f, a, b, n$ )	
$I \leftarrow 0$	▷ Initialize the integral variable
$h \leftarrow (b - a)/n$	▷ Compute the interval length
<b>for</b> $i = 1, 2, \dots, n$ <b>do</b>	
$x \leftarrow a + (i - 1/2)h$	▷ Assign $x$ to the midpoint
$I \leftarrow I + f(x)$	▷ Add contribution to integral
$I \leftarrow Ih$	▷ Finalize the computation

[1] A. Faul, “A concise introduction to numerical analysis,” (CRC Press, 2016) Chap. 5, p. 131.