Replace by your report title

INF221 Term Paper, NMBU, Autumn 2019

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ABSTRACT

In this paper, we analyse …

1 INTRODUCTION

In this section, provide a brief introduction to the term paper's topic and give an overview of the material that follows.

2 THEORY

Provide a brief description of the algorithms you will be investigating, including pseudocode for the algorithms. Describe in particular the expected runtime of algorithms in terms of problem size. Use a separate subsection for each algorithm.

2.1 Algo 1

Listing 1 Insertion sort algorithm from Cormen et al. [2009, Ch. 2.1].

INSERTION-SORT(A)

```
1  for j = 2 to A.length
2      key = A[j]
3      i = j − 1
4      while i > 0 and A[i] > key
5          A[i + 1] = A[i]
6          i = i − 1
7      A[i + 1] = key
```

Pseudocode for the first algorithm is shown in Listing. 1.
Best case runtime for this algorithm is

$$T(n) = \Theta(n) \, . \tag{1}$$

It is achieved for correctly sorted input data.

2.2 Algo 2

Lorem ipsum …

3 METHODS

In this section, you shall described how you performed the benchmarks:

- What test-data did you use and how was it generated?
- How did you execute your benchmarks?
- How did you measure runtimes?
- What kind of computer did you use, and what software versions?
- Provide git hashes of all relevant files!
- This section should be divided into several subsections.

Listing 2 Draft benchmark setup.

```
times = []
for k in range(1, 5):
    n = 2**k
    times.append(bench(func, n))
```

Table 1: Versions of files used for this report; Github repository https://x.y.z.

File	Git hash
`run_bench.ipynb`	`42a44d2a6`
`results.pkl`	`65342aed2`

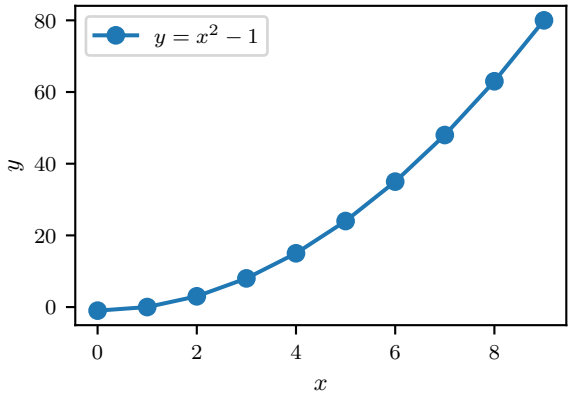

Figure 1: Benchmark results for ….

4 RESULTS

Here, you should present your results. Provide clear figures with tidy lettering in legible font sizes. Figures should not be resized when included, so prepare them for the column width of 84 mm. For good quality, export figures as PDF files from Python.

The results section should be divided into several subsections.

5 DISCUSSION

In this section, you should summarize your results and compare them to expectations from theory presented in Sec. 2.

ACKNOWLEDGMENTS

We are grateful to …for ….

REFERENCES

Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. 2009. *Introduction to Algorithms, Third Edition* (3rd ed.). The MIT Press, Cambridge, MA.