# Lab Session n. 4: report

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## 1 Introduction

In this report I will provide the results I achieved with complete backtracking algorithms.
I also implemented a basic branch&bound solution that produces slightly better results: as in the enumeration lab, to compile the BB version uncomment the flag in the Makefile.

## 2 Technical aspects

The machine used has:

**CPU:** Intel i5-8250U @ 3.40 GHz

**RAM:** 8 GB

**Operating System:** Linux Fedora 33

Tests were done with 3 minutes runtime (command `timeout 180`).
Sources are compiled through `make` with `C++17`.

# 3 Assignment 2

| Instance | Backtracking vanilla |
|---|---|
| wlp-1 | **1931** |
| wlp-2 | **1891** |
| wlp-3 | **4553** |
| wlp-4 | **4366** |
| wlp-5 | **3530** |
| wlp-6 | **4108** |
| wlp-7 | **4429** |
| wlp-8 | **4961** |
| wlp-9 | 9710 |
| wlp-10 | 12050 |
| wlp-12 | 9919 |
| wlp-15 | 22398 |
| wlp-20 | 23572 |
| wlp-30 | 39938 |
| wlp-50 | 61966 |
| wlp-100 | 131135 |

# 4 Assignment Extra

| Instance | Branch&Bound |
|---|---|
| wlp-1 | **1931** |
| wlp-2 | **1891** |
| wlp-3 | **4553** |
| wlp-4 | **4366** |
| wlp-5 | **3530** |
| wlp-6 | **4108** |
| wlp-7 | **4429** |
| wlp-8 | **4961** |
| wlp-9 | **8145** |
| wlp-10 | 11991 |
| wlp-12 | 5561 |
| wlp-15 | 21022 |
| wlp-20 | 17918 |
| wlp-30 | 34481 |
| wlp-50 | 61605 |
| wlp-100 | 130729 |