

# TDT4173 – Assignment 4

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## 1 Theory

1.1 1)

1.2 2)

1.3 3)

## 2 Programming

```
# Extract data
knn_class <- read.csv("dataset/dataset/knn_classification.csv")
knn_reg <- read.csv("dataset/dataset/knn_regression.csv")
ada_train <- read.csv("dataset/dataset/adaboost_train.csv")
ada_test <- read.csv("dataset/dataset/adaboost_test.csv")
```

```
knn(k = 10,
    data = knn_reg,
    point = as.vector(as.matrix((knn_reg[124, 1:3]))),
    type = "reg")
```

```
## [1] 1.6
```

```
knn(k = 10,
    data = knn_class,
    point = as.vector(as.matrix((knn_class[124, 1:4]))),
    type = "class")
```

```
## [1] "2"
```

```
# -*- coding: utf-8 -*-
import sys
sys.path.insert(0, "/home/siliusmv/Documents/8. semester/maskinl ring/exercises/exercise_4")
import stupidname as ss
import numpy as np
knn_class = np.genfromtxt("dataset/dataset/knn_classification.csv",
    delimiter="," , skip_header=1)
knn_reg = np.genfromtxt("dataset/dataset/knn_regression.csv",
    delimiter="," , skip_header=1)
ada_test = np.genfromtxt("dataset/dataset/adaboost_test.csv",
    delimiter="," , skip_header=1)
ada_train = np.genfromtxt("dataset/dataset/adaboost_train.csv",
    delimiter="," , skip_header=1)
err = ss.testAdaBoost(15, ada_train, ada_test)
print(err)
```

## [0.4604166666666664, 0.4604166666666664, 0.4341666666666665, 0.4341666666666665, 0.3904166666666665]