CSC420: Assignment 1

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Problem 1

1. *Given an nn image I, and mm filter h, what is the computational cost of computing hI if h is not separable?*

   The computational cost for $h * I$ when h is not separable is $O(n^2m^2)$.

   This because each pixel in I gets computed for m^2 time, and there are n^2 pixels in total.

2. *What is the computational cost if h is separable?*

   The computational cost for $h * I$ when h is not separable is $O(m^22n)$.

Problem 2

Images

Figure 1: caption

Problem 3

Pseudocode

Algorithm 1 Process(A, B)

```
1: if A = B then
2:     C = empty list                                  ▷ comment
3:     return true
4: else
5:     while A ≠ ∅ do
6:         Do something
```

Problem 4

Listing 1: Caption

```
def function(a):
  return a
```