Motivation

In technical interviews, interviewees are sometimes asked to write code on white board or paper. Interviewer can see the general logic of the code but cannot actually run it and prove its correctness.

Therefore, the goal of this project is to provide a solution that would allow people take a picture of a piece of code by android phone and display its output.

Future Work

- Add more interactive activity to allow data input & output
- More options to deal with more complicated programs (linking, makefile, ...)
- Build specific language model for a certain programming language
- More training example to improve recognition accuracy
- Skew adjustment
- Method to recognize indentation
- Generalize to more programming languages

Server

Preprocessing → Code recognition → Post-processing

Client

Capture Image → Manually Adjustment → Output

Motivation

Work Flow

Preprocessing

- Locally Adaptive Binarization
- Remove small region
- Morphological opening

Tessercat Training

- 2164 Characters
- Manual labeling
- Self-defined fonts

Post-processing

- Build dictionary
- Spell correction based on edit distance
- Add semicolon

Implementation Details

Preprocessing

- Include "stdio.h"
- 
- bool isyear(int year){
-    if (year % 400) return 1;
-    else if (year % 100) return 0;
-    else if (year % 4) return 1;
-    else return 0;
- }