

EXERCISE #22

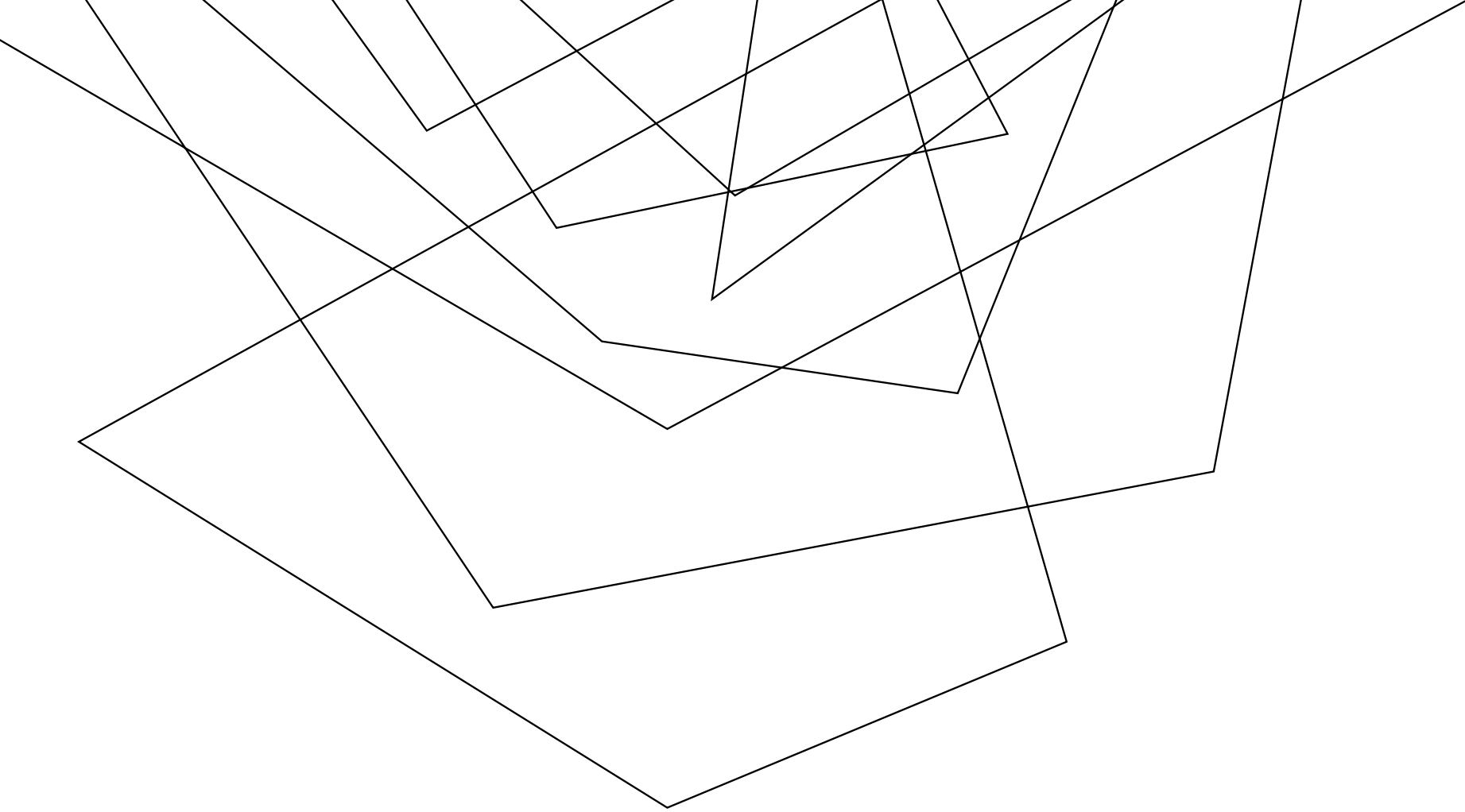
PROGRAM INSTRUMENTATION REVIEW

Write your name and answer the following on a piece of paper

Give an example of a program where Steensgard's analysis will indicate a false-positive points-to relationship that Andersen's would avoid

ANNOUNCEMENTS

ADMINISTRIVIA

Abstract geometric lines in the top-left corner of the slide, consisting of several thin black lines forming various polygons and intersecting each other.

QUIZ 2 REVIEW

EECS 677/777: Software Security Evaluation

Drew Davidson

TOPICS

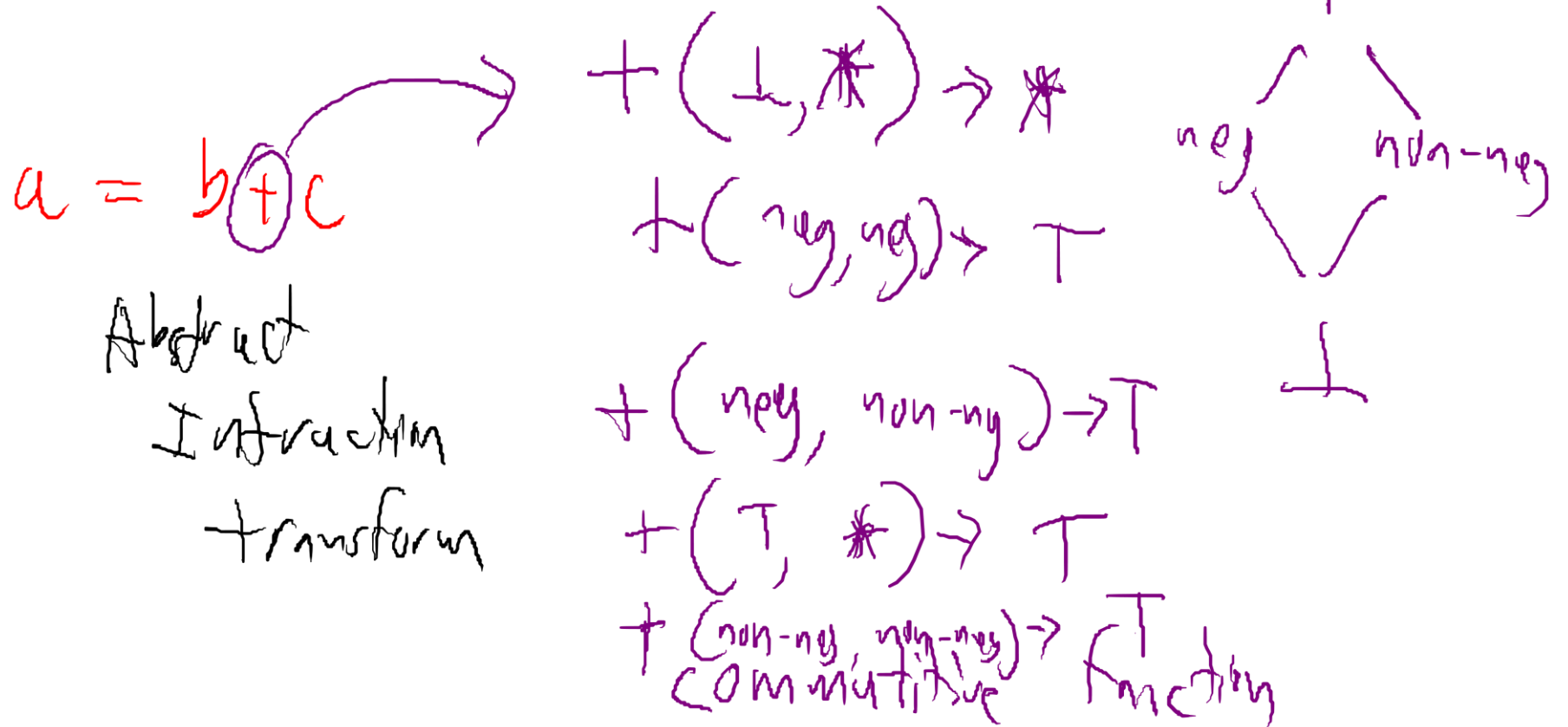
QUIZ 2 REVIEW

- Computability
- Static Analysis
- Control Flow
- Fixpoints
- Lattices
- Abstract Interpretation
- Information Flow
- Side Channels
- Dependency Analysis
- Program Slicing
- Interprocedural Analysis
- Summary Functions
- Class Hierarchy Analysis

REVIEW

QUIZ 2 REVIEW

Abstract Interpretation



REVIEW

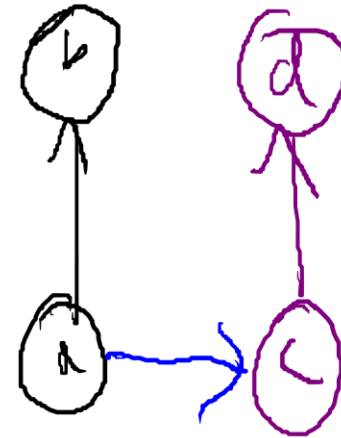
QUIZ 2 REVIEW

Dependency Analysis (use-def)

$$a = b;$$

$$c = d + 2;$$

$$a = c;$$



REVIEW

QUIZ 2 REVIEW

```
void bar() {
```

```
    void foo() {  
        bar();  
    }
```

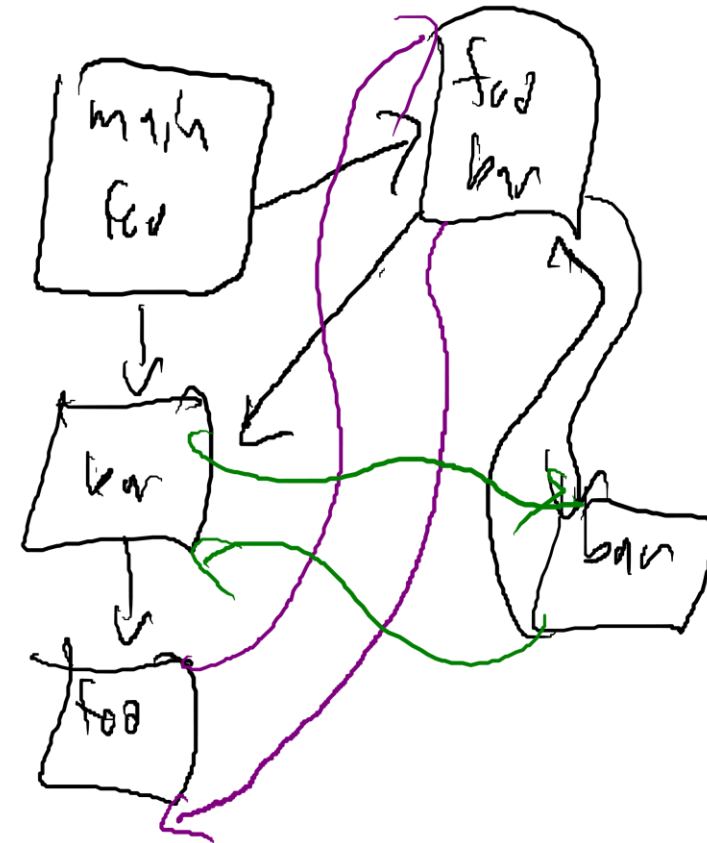
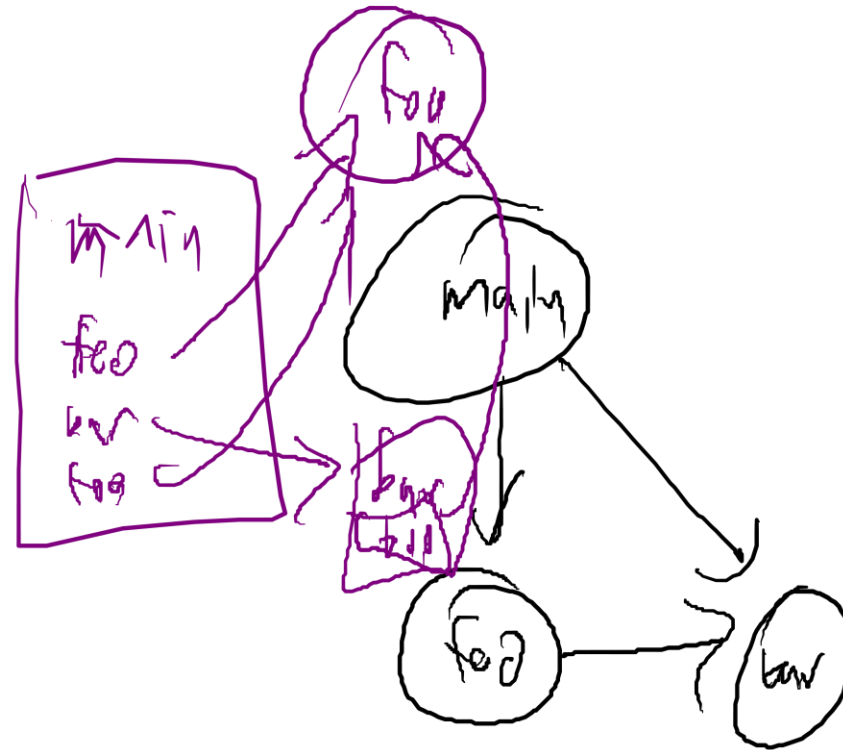
```
int main() {
```

```
    foo();
```

```
    bar();
```

```
    foo();  
}
```

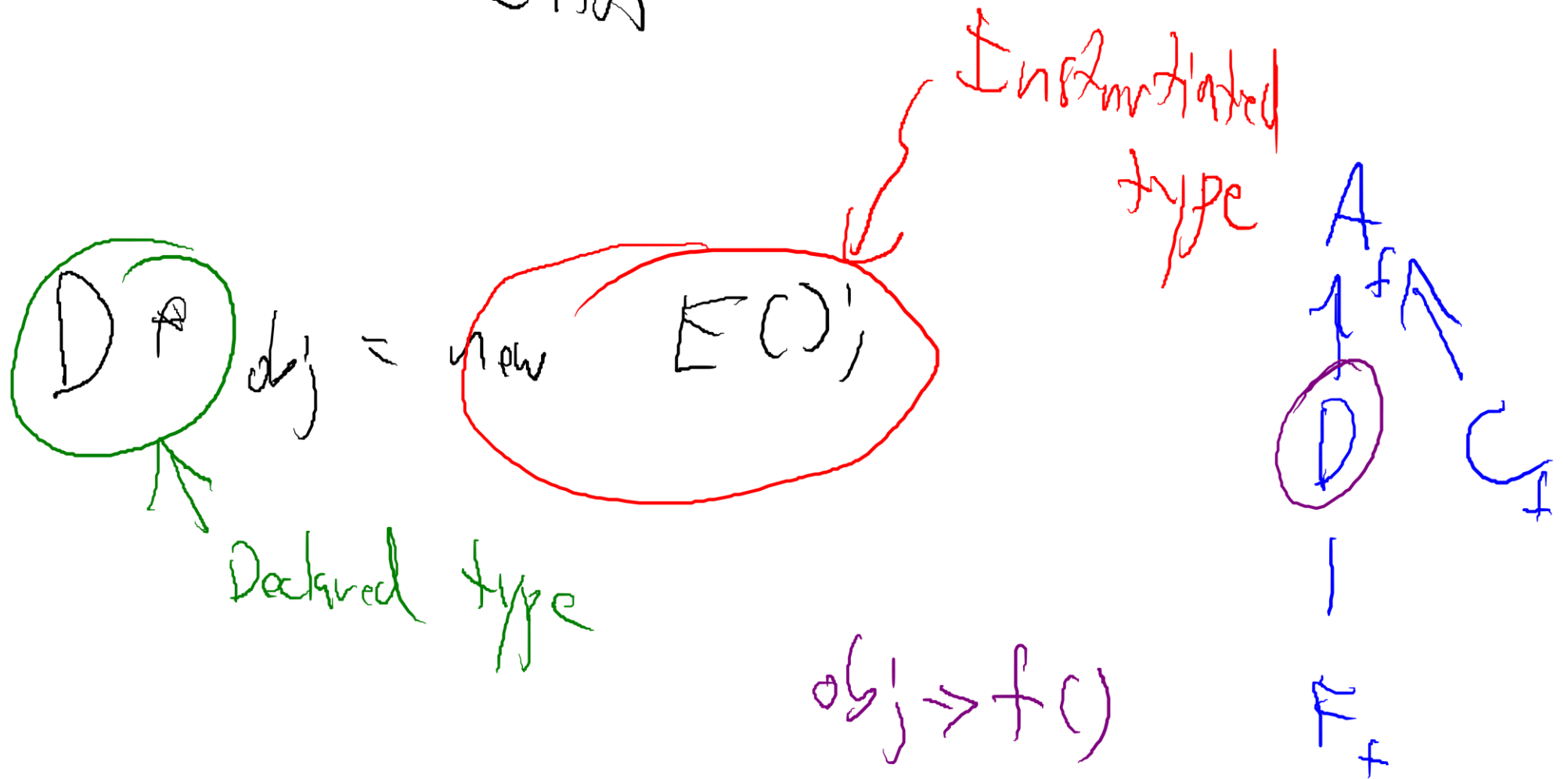
Interprocedural Analysis



REVIEW

QUIZ 2 REVIEW

CHA



REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW

REVIEW

QUIZ 2 REVIEW