

17-355/17-655/17-819: Program Analysis

Lecture 11, Pointer Analysis

In-Class Exercises

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1. Analyze the following program using Andersen's points-to analysis and draw the resulting points-to graph

```
1: q := malloc()
2: p := malloc()
3: p := q
4: r := &p
5: s := malloc()
6: *r := s
7: t := &s
8: u := *t
```

2. Analyze the following program using Steensgaard's points-to analysis and draw the resulting points-to graph

```
a := &x
b := &y
if p then
    y := &z
else
    y := &x
c := &y
```