EECS 22: Advanced C Programming
Week 1

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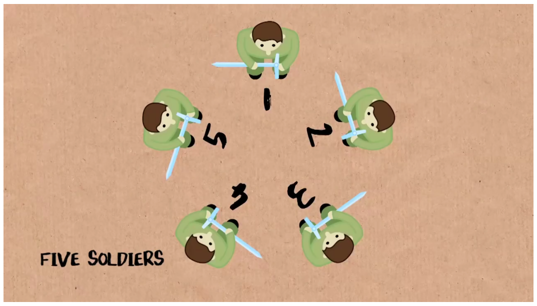
Outlines

- Assignment Discussion
  - The Josephus problem
  - Bonus points
- Submission
  - Grading Criteria
  - Required files
  - Typescript
- Others

The Josephus Problem

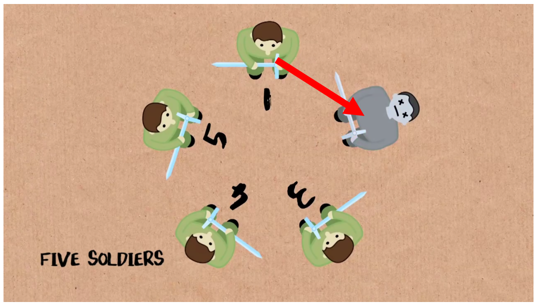
- `N` people in a circle
- Everybody executes the left person
- Who would survive?



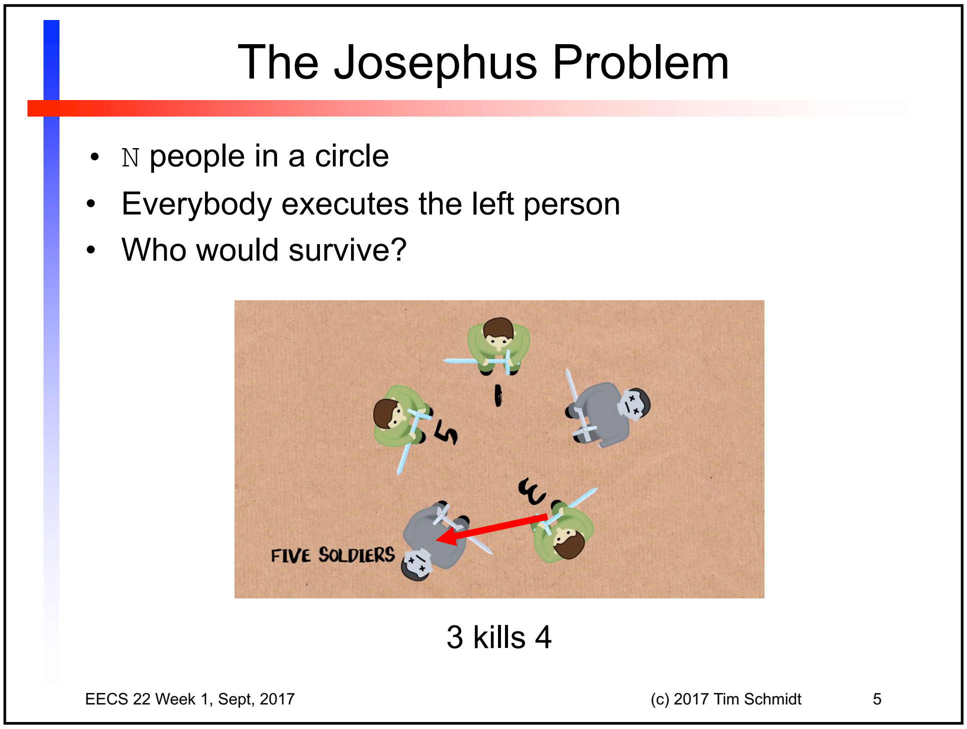
All alive, person 1 starts

The Josephus Problem

- `N` people in a circle
- Everybody executes the left person
- Who would survive?



1 kills 2

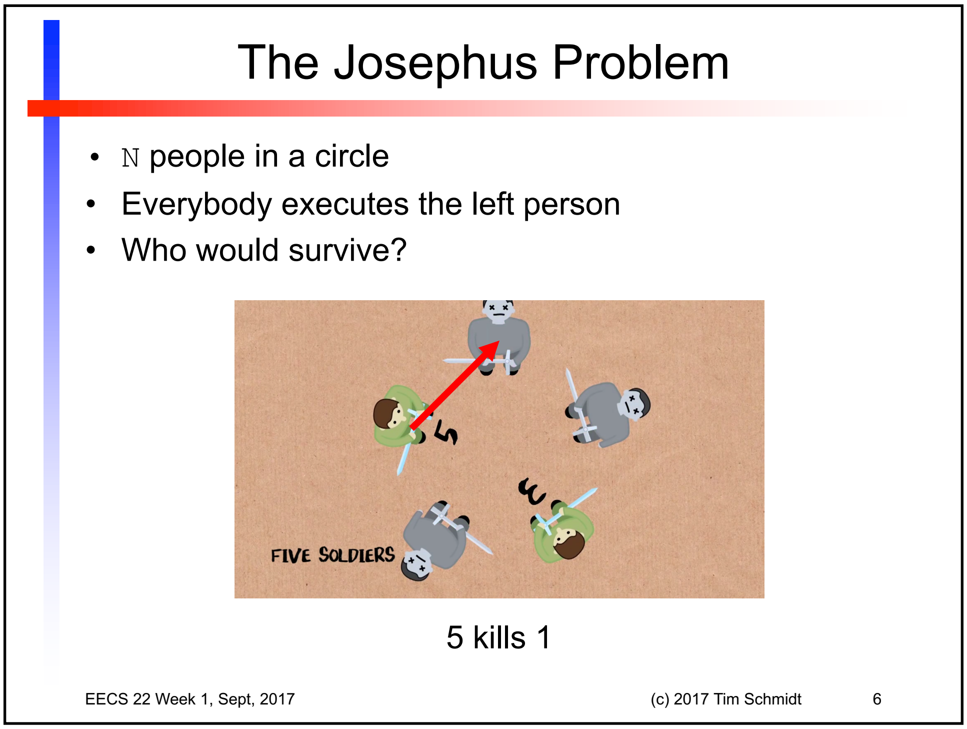


The Josephus Problem

- `N` people in a circle
- Everybody executes the left person
- Who would survive?

1
5
3
FIVE SOLDIERS

3 kills 4



The Josephus Problem

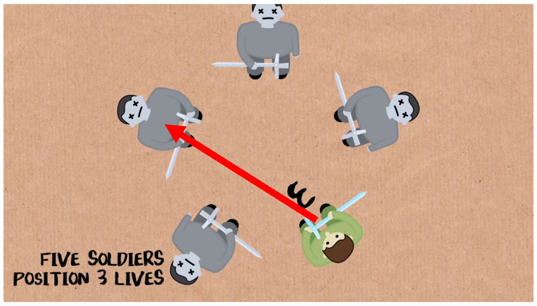
- `N` people in a circle
- Everybody executes the left person
- Who would survive?

5
3
FIVE SOLDIERS

5 kills 1

The Josephus Problem

- `N` people in a circle
- Everybody executes the left person
- Who would survive?



3 kills 5

The Josephus Problem

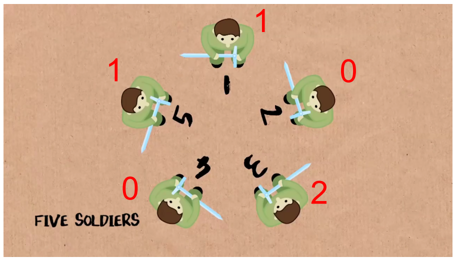
- Your program interface looks like this:

```
./josephus
How many people are in the circle? 41
The spot 19 is safe.
```

Bonus Points

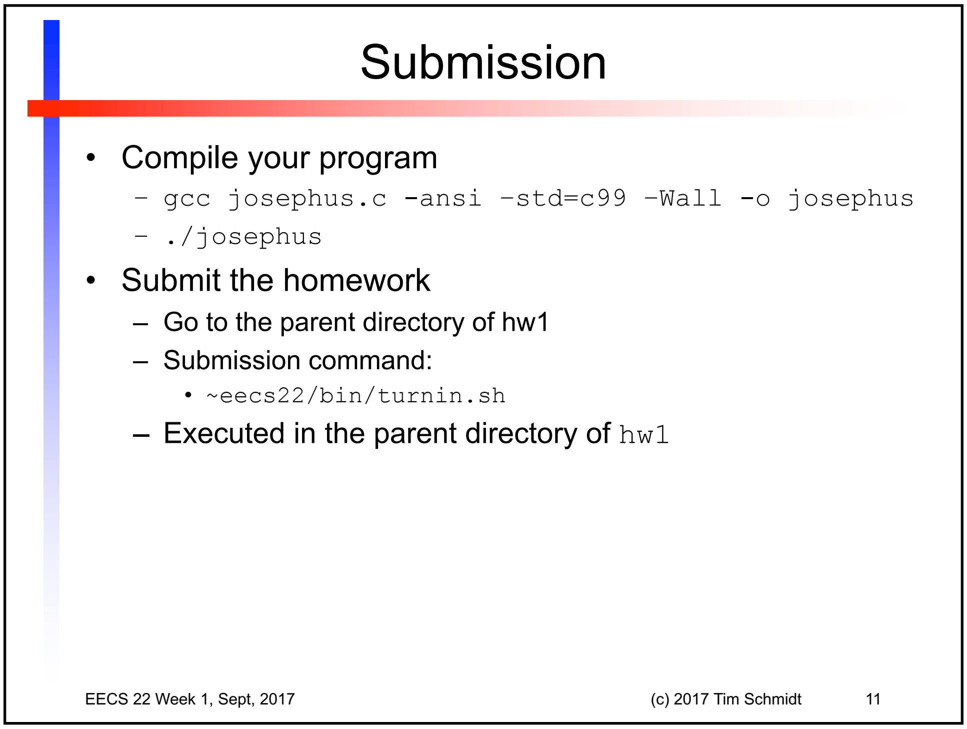
- How many people have been most executed by one person?
- Your program executes like this:

```
./josephus
How many people are in the circle? 5
The spot 2 is safe.
Most executions by an individual are 2.
```



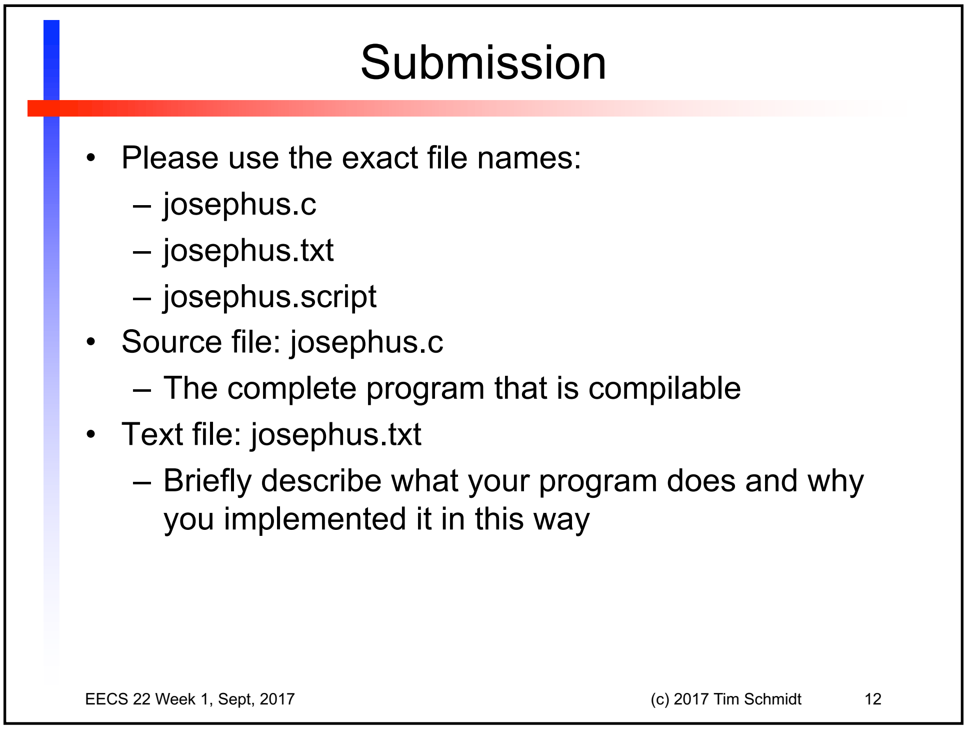
Grading Criteria

1. Only compilable submissions can get up 100 points.
2. Not compilable submissions get **at most** 50 points!
3. We compile all submissions with `-ansi -std=c99 -Wall`. Warnings will reduce your points.



Submission

- Compile your program
  - `gcc josephus.c -ansi -std=c99 -Wall -o josephus`
  - `./josephus`
- Submit the homework
  - Go to the parent directory of hw1
  - Submission command:
    - `~eecs22/bin/turnin.sh`
  - Executed in the parent directory of `hw1`



Submission

- Please use the exact file names:
  - josephus.c
  - josephus.txt
  - josephus.script
- Source file: josephus.c
  - The complete program that is compilable
- Text file: josephus.txt
  - Briefly describe what your program does and why you implemented it in this way

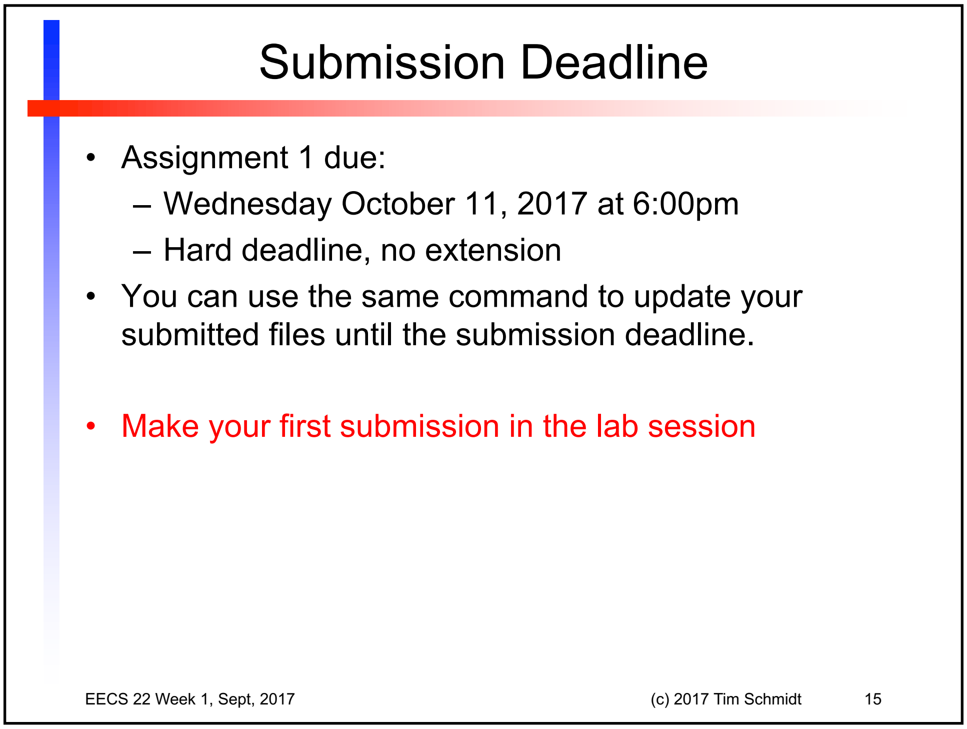
Typescript

- A text file that captures an interactive sessions within the Linux shell.
- The typescript shows that your program runs correctly with the given input.
- Start the typescript with a command `script`, and stop it with `exit` or `ctrl-D`.
  - Don't start a text editor when recording.
  - Rename `typescript` after recording.

HelloWorld.script

```
bondi% script
Script started, file is typescript
bondi% gcc HelloWorld.c -ansi -std=c99 -Wall -o HelloWorld.out
bondi% ./HelloWorld
Hello World!
bondi% exit
exit
Script done, file is typescript
bondi% mv typescript HelloWorld.script
bondi% more HelloWorld.script
Script started on Wed Jun 24 14:52:39 2015
bondi% gcc HelloWorld.c -ansi -std=c99 -Wall -o HelloWorld.out
bondi% ./HelloWorld
Hello World!
bondi% exit
exit

Script done on Sun Sep 27 14:52:54 2015
```



Submission Deadline

- Assignment 1 due:
  - Wednesday October 11, 2017 at 6:00pm
  - Hard deadline, no extension
- You can use the same command to update your submitted files until the submission deadline.

- Make your first submission in the lab session