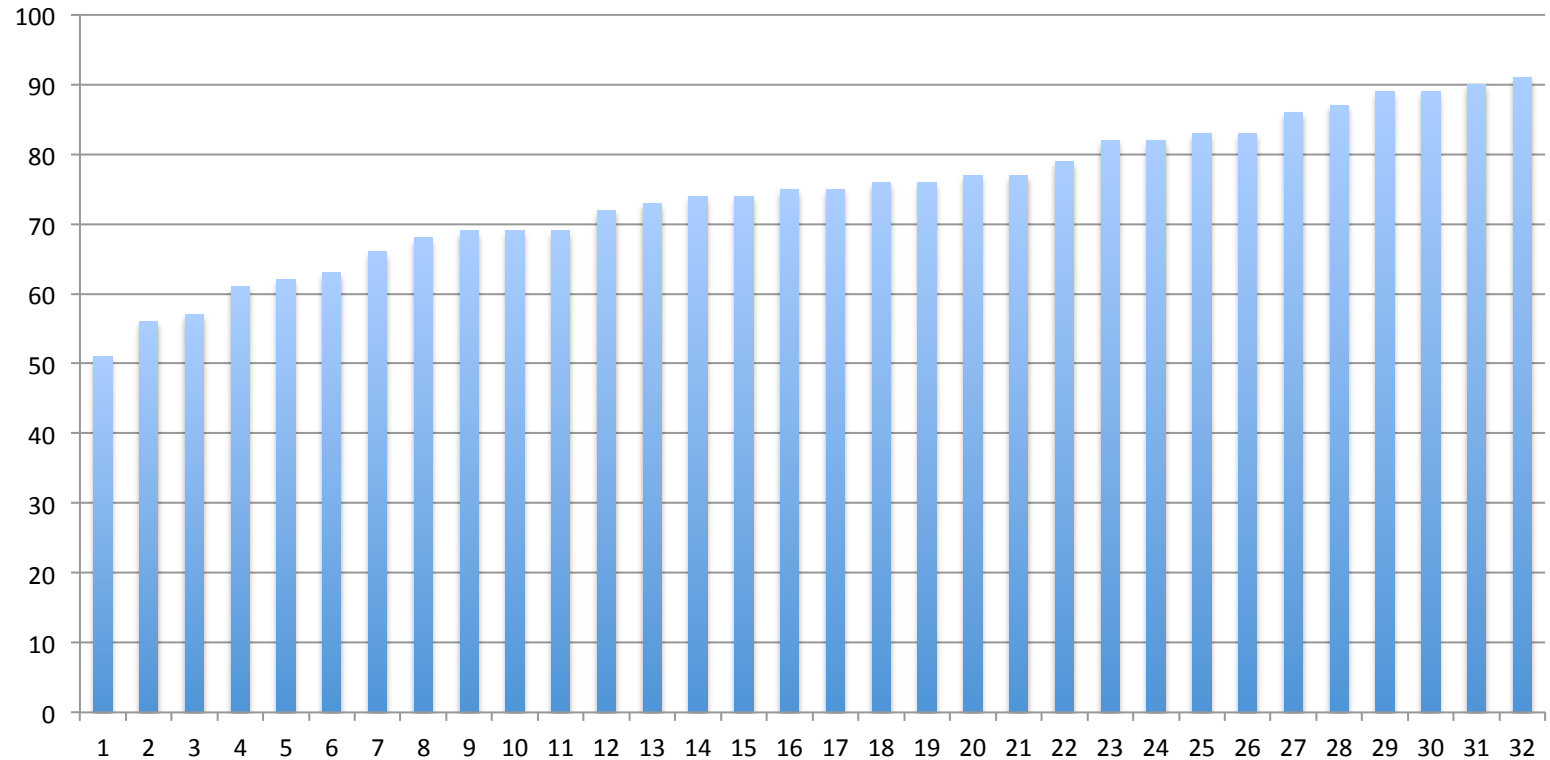# Code Generation & Run time Environments

1. What *information* do we need to execute a program?

2. What does *runtime memory layout* look like?

3. What goes where?

4. How do we implement functions and calls?
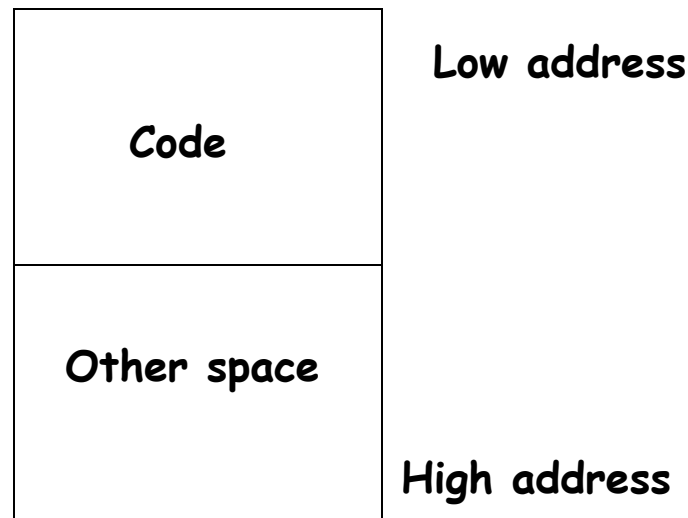
5. Object-oriented features?

Exam 1

Average 74%. Max 91.

Executing a program is initially under control of operating system

When a program is invoked:

- the operating system allocates space for the program

- the code is loaded into part of the space

- jump to entry point of the code - the main program

Code
Other space

Low address

High address

Note: not necessary for all program space to be contiguous
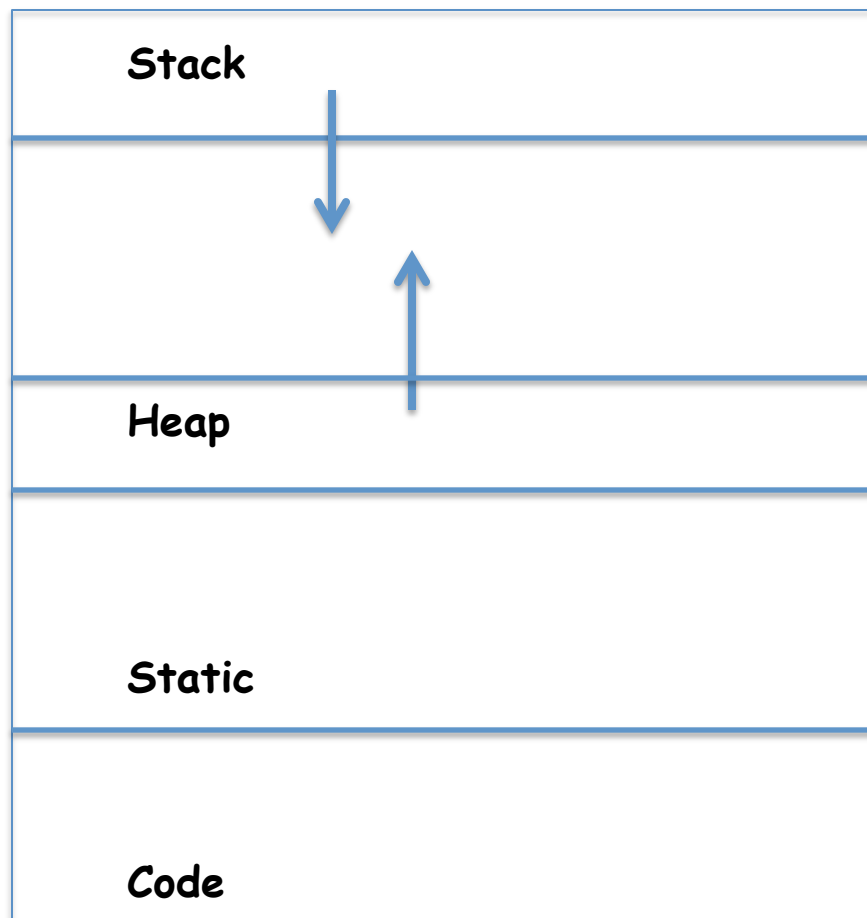
What is the purpose of "other space"?

· Holds all data that the program needs and creates

Compiler is responsible for

- generating the code

- orchestrating/managing the use of the data area

Where do we put the data and code?

Why a Runtime **Stack? Heap?**

What gets stored there?