

CS4XX – INTRODUCTION TO COMPILER THEORY

Reading:

Chapter 7 from Principles of Compiler Design, Alfred V. Aho & Jeffrey D Ullman

Objectives:

1. To understand the concepts of Run-Time environments

Concepts:

- | | |
|---------------------------|---------|
| 1. Source language issues | ½ hour |
| 2. Storage Organization | ½ hours |

Outlines:

1. Run-Time Environments
 - Source language issues
 - Storage allocation

CS4XX: Week 8 – Lecture Notes

1. Run-Time Environments

a. Source language issues

- Procedures
- Activation Trees which defines the sequence of steps and control flow
- Control stacks represents the depth first traversal of activation tree
- Binding of names – The function that maps a storage location with values

b. Storage Organization

- Subdivision of run-time memory– determine how to place target code in memory
- Activation records – Managing information needed to execute a procedure
- Compile-time layout of local data - Storage allocation of blocks and addressable memory