

Access to files

There is a special datatype of *files*

Three most important operations:

- `fopen`: opens a file as a stream
- `fgetc` reads a character from a file
- `fclose` closes a file

For files containing text, have library function `getline` which reads a line of text a time

have also library functions which do limited amount of format conversion (eg `fscanf`)

Structures

Structure in C is collection of variables grouped together with single name

Equivalent in Java: object with only public fields

Syntax: Declaration of a structure is done via

```
struct <structname> = {  
    /* one or more variable declarations */  
}
```

May now be used like any other type

Variables may be declared now via

```
struct <structname> <variablename>
```

Using structures

Only operation available: select a component

If used as arguments in functions, a *copy* is made

Often not desirable: structures might be large, hence copying is inefficient

⇒ use pointers to pass arguments

This is same behaviour as objects in Java

Example: Lists

Definition for list of integers is

```
struct IntList {  
    int elem;  
    struct IntList *next;  
};
```