The Virtual Machine

Abstraction & Computer Science

Donald F. Ross   21D 413

donald.ross@kau.se

The **ADT** & a Drinks Machine

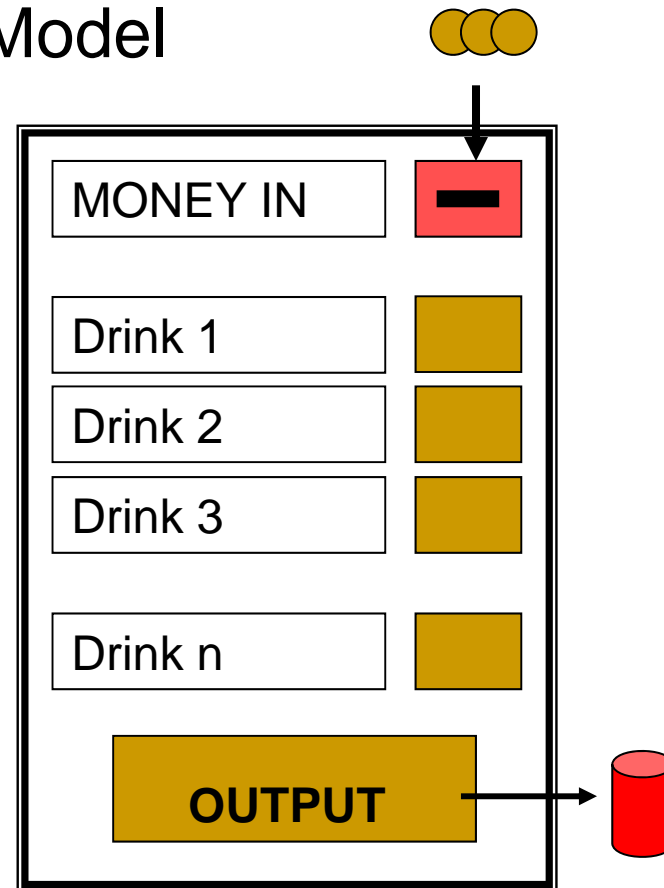**ADT = Abstract Data Type**

- **IPO** = input / process / output
  - Money in   input
  - Choose drink   process
  - Collect drink   output
- **UI** (user interface) – **front panel**
- **ADT = a virtual machine**
  - UI – menu based
    - d – display ADT
    - a – add a value
    - f – find a value
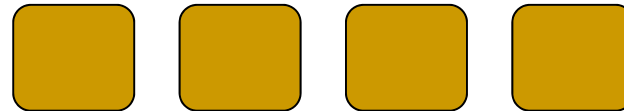   - r – remove a value
    - n – number of elements

- Model

MONEY IN	▬
Drink 1	
Drink 2	
Drink 3	
Drink n	

OUTPUT

The **ADT** & a Virtual Machine

ADT = Abstract Data Type

- UI (user interface) – **menu**
- **ADT = a virtual machine**
- **Menu ➔ User Dialog**
  >enter value:

  - UI – menu based
    - d – display ADT
    - a – add a value
    - f – find a value
    - r – remove a value
    - n – number of elements (cardinality)

- A sequence
- ADT + operations

D	**display ADT**
A	**add a value**
F	**find a value**
R	**remove a value**
C	**cardinality**

ADT = Virtual Machine

- This is what this course is about

- Remember this **model** during the course

- The ADT is hidden **(implementation abstraction)**

- **Changes are only made via OPERATIONS**