Different Programming Paradigms

Have different kind of programs:

- Data Processing Programs: program accepts input, does some computation and produces some output
- Event-driven systems: Program waits for events and does processing only in response to events
- Concurrent Programs: Program consists of several processes running in parallel

Each kind requires different way of designing them

Data Processing Programs

Simple structure and control flow: Have

- Data Input
- Data Processing
- Data Output

⇒ easy linear structure
⇒ easiest programs to write

Event-driven systems

Typical Example: Graphical User Interface

- Program creates Windows
- User presses button
- Program performs appropriate action

Very different system architecture:

- Program has methods for drawing windows
- Program sets up Event handler: a list of methods which are called when a certain button is pressed
- for each event (eg button pressed) there is a method which is called when the event occurs

Event-driven systems, continued

Control Flow cannot be derived from program code
Typical execution sequence:

- Set up windows
- Set up event handler
- Display windows and wait for events
- For each event that occurred, execute the appropriate method

⇒ good understanding of the event handler necessary