

Title: Programming by example

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Categories: Category:Computer programming stubs, Category:Machine learning, Category:Machine learning stubs, Category:Programming paradigms, Category:User interfaces

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In computer science , programming by example (PbE), also termed programming by demonstration or more generally as demonstrational programming , is an end-user development technique for teaching a computer new behavior by demonstrating actions on concrete examples. [1] The system records user actions and infers a generalized program that can be used on new examples.

PbE is intended to be easier to do than traditional computer programming , which generally requires learning and using a programming language . Many PbE systems have been developed as research prototypes , but few have found widespread real-world application. More recently, PbE has proved to be a useful paradigm for creating scientific work-flows. PbE is used in two independent clients for the BioMOBY protocol: Seahawk and Gbrowse moby .

Also the programming by demonstration (PbD) term has been mostly adopted by robotics researchers for teaching new behaviors to the robot through a physical demonstration of the task. The usual distinction in the literature between these terms is that in PbE the user gives a prototypical product of the computer execution, such as a row in the desired results of a query ; while in PbD the user performs a sequence of actions that the computer must repeat, generalizing it to be used in different data sets. For final users, to automate a workflow in a complex tool (e.g. Photoshop), the most simple case of PbD is the macro recorder .

See also

Query by Example

Automated machine learning

Example-based machine translation

Inductive programming

Lapis (text editor) , which allows simultaneous editing of similar items in multiple selections created by example

Programming by demonstration

Test-driven development

References

External links

Henry Lieberman's page on Programming by Example

Online copy of Watch What I Do , Allen Cypher's book on Programming by Demonstration

Online copy of Your Wish is My Command , Henry Lieberman's sequel to Watch What I Do

A Visual Language for Data Mapping , John Carlson's description of an Integrated Development Environment (IDE) that used Programming by Example (desktop objects) for data mapping, and an iconic language for recording operations

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Yale LUX

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