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Recursive problem solving in the online learning environment CodingBat by computer science students

Version 1.0.0

Data Package Overview
June 2022

Overview of Data Package "Recursive problem solving in the online learning environment CodingBat by computer science students"

Study Series	Promoting competence in programming education through the modeling of competencies and informative feedback
Institutions	Goethe University Frankfurt am Main Fulda University of Applied Sciences
Sponsored by	No funding
Project Contributors	Natalie Kiesler
Data Curation	Dilek İkiz-Akıncı
Topics	Higher Education Research, didactics of computer science, computer science education, problem solving steps, basic programming education
Survey Design	Cross-Section
Survey Data Type	Qualitative Data
Surveys	Observation of students while solving programming exercises in CodingBat
Population	Students of the Department of Applied Computer Science were considered potential test subjects, if they had successfully participated and completed at least the course "Programming 1" (basic programming course) at Fulda University of Applied Sciences at the time of the tests. This is also the reason for the test series to take place after the exam period of the winter semester 2016/2017. The introductory programming course teaches the basics of Java programming, including recursion. There were no other special preferences of study participants with regard to a course of study or a specific semester number, since all students at the Department of Applied Computer Science attended one and the same course for the introduction to programming in the winter semester 2016/2017. In this respect, it can be assumed that there is at least a common basis of knowledge that was presented to students in the course. Hence, all students were considered as potential test subjects who had at least passed the first programming course accredited with 5 ECTS points and 4 contact hours per semester (German: "Semesterwochenstunden") as a common basis.
Sampling Procedure	Non-probability Sample: Purposive Sample
Survey Method	Solving programming tasks, thinking aloud
Field Period	21st March to 6th April 2017

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Net Sample Size	n = 11
Remarks on the Surveys	The data package consists of: - 11 transcripts of screen activities of a total of 11 student (A01 to A06 and B01 to B05) while solving the CodingBat task of computing the factorial of natural numbers n, - 5 transcripts of screen activities of the same students (B01 to B05) while solving the CodingBat task of computing the Fibonacci sequence - a total of 16 transcripts from 11 students are available
Data Products and Access Ways	SUF: Download
Data Collection	**Transcribed student steps during recursive problem solving** SUF: Download (n = 11)
DOI	10.21249/DZHW:studentsteps:1.0.0
Release Notes	The release notes for this version of the data package can be found here under "Documents related to this Data Package".
Data Package Publications	Publications related to this data package can be looked up here under "Related Objects".

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