Programming is an abstract concept to teach without providing any concrete help. SIMPEN aims to help students in understanding essentials of programming techniques before beginning any programming languages. Monitoring all components of a programming language, which are pseudo code, source code, flow-chart and output, is an essential cognitive process for students to understand the logic of programming. Therefore, we developed SIMPEN to combine all these components together in an interactive visual environment so that students can associate all components of programming and better understand their functions. SIMPEN not only allows students move from simple models to complicated ones just clicking on the mouse, but also students can trace all components of programming simultaneously. SIMPEN provides immediate feedback during the tracing process and students can use the help menu at the same time. Thus, SIMPEN enables students to learn programming logic and techniques in a simulated environment at their own pace.

Figure 1. Sample run of SIMPEN