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Simulation.

Simulation is one of the several general categories of computer use. It can be especially well adapted to the interactive, time-sharing environment. In computer simulation, a program is written which causes machine response to appropriately represent the significant features of some system under study. Several such programs have been written or used here. Some of these deal with learning models. Examples include a simple stimulus-response association learning, a rat-in-maze program, and a stimulus sampling model of learning. Students in an Ecology class were able to simulate the interaction of certain animal populations. Several Science I-II students prepared programs to simulate physical apparatus such as a resonant circuit or gyroscope with which they had experimented. These programs allow one to study a system of interest--at least a model of it--in cases where limitations of time, money, equipment, safety, etc. prevent direct study.

International Relations

David Moore has completed his program which simulates the interaction of six nations. The operator may choose to be the "central decision maker" of any one of five fictitious nations after he has reviewed a brief description and history of each. During a run, he is called upon to respond to military and economic problems created by the interaction of the six nations of his "world." These responses must be made in terms of the resources of his own nation. At the end of the run, the operator receives a report by which he may evaluate the success of his regime. The program was developed as part of an independent study project in the Government department. See David Moore or Professor Bass for details. Several other Government students are using the program this month.

Economics Game

Mike Foxworth has been studying a program called "GAME" which was written by James C. Wright and based on an economic model by A. H. Packer and James A. Zwerneman. (All three men are at the Research Triangle Institute.) The model is a 23-equation set representing a general Keynesian system and is designed for two policy "players" or economic decision makers and one referee. This program is the most complex simulation used here to date and can provide many hours of instructive experience as the users experiment with the influence that changes in the various economic parameters will make in the total system represented by this model.

The user may select or create a previous economic history for imaginary country modeled. An interesting feature of this program is that one may obtain predictions of the effects of his economic policies before putting them into effect.

The program requires considerable knowledge of basic economic concepts to be most valuable. The Computer Center has documentation on the use of this program, but see Mike Foxworth for a more complete explanation of its use and meaning.