1 ODD of model version 3 :

1.1 Purpose

The model was designed to make the simulations of the Bahria university cafeteria, our goal is that male and female come in cafeteria, give order in the cash counter to servers agents and sit on chairs, the server will serve them dishes on table and after some time remove the dishes from tables.

1.2 State Variable and Scales

The main agent in this model is Students who represent an individual student of the university who comes to the cafeteria and give order and take order to tables. The agent is different in their personal characteristic for instance, blue agent represents the male students and pink agent represents the female students.there is another agent server which is take order from student agents,serve them on tables and remove dishes from table. Behaviorally, agents are moving and goal-oriented toward a specific purpose at a given time. In this model activity is related to location which are counter serving different items and tables and chairs there are 16 tables (orange patches) and 64 chairs (yellow and green patches).

1.3 Process Overview and Scheduling

At each tick, each agent makes decision to go to cash counter,give order and sit on chairs but male and female agents do not sit on same side, the server come and serve them dishes and after sitting there for some time they leave the cafeteria and server removes the dishes from tables.

1.4 Design Concepts

Observation: The visualization window of model as shown in figure depicts the cafeteria with tables,chairs and cash counter.It monitors the numbers of girls and boys in the cafeteria and percentage of girls and boys who give order in cash counter

Emergence: The students come in cafeteria and both male and female student give order in cash counter and then sit on opposite sides the server serve the order to tables and remove the dishes after some time.

1.5 Initialization

The simulation start with a specified number of students. There are 100 students in the cafeteria and waiting time of each student is set as 30 ticks, the serving time is set as 14 ticks.the default boys and girls who will give order are 20 and 50 percent respectively.

1.6 input

The model did not include any external environmental variables

1.7 Submodel

Goal selection: Agents based decision making is a complex task, agents determine their activity based on their personal characteristic i.e. gender. They also consider the time when they make their goal choice. Both male and female students go to cash counter give order, the servers serve order to tables ,after some time they remove the dishes from table.

2 Behavior space experiments

Behavior space experiments of model version 3 are shown in figure 1 and figure 2 of boys and girls respectively

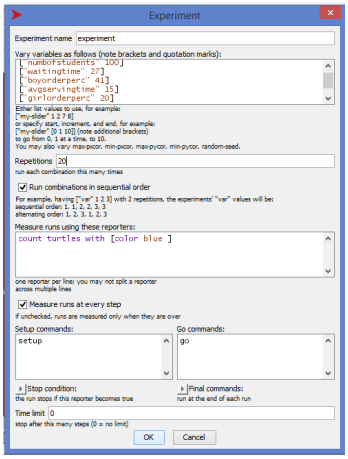

Figure 1: This is experiment to count the boys .

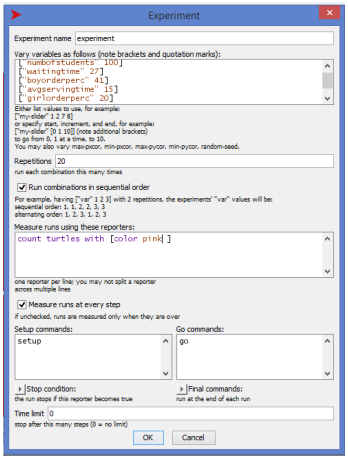

Figure 2: This is experiment to count the girls .