## ODD PROTOCOL

## 1.1 Purpose

This model describes the behavior of students visiting the cafeteria of Bahria University. Students enter in the cafeteria, sit for few minutes and then leave the cafeteria.

## 1.2 State Variable

Student is an entity in this model which is further divided into two groups’ boys and girls. Wait-time acts as a state variable which shows the amount of time students stay in the cafeteria. There are monitors to count number of girls and boys visiting cafeteria.

## 1.3 Process Overview

Students enter the cafeteria and sit for some time. The rule is that students with the same gender cannot sit at the same side of the table. Students wait for some time and then leave the cafeteria. State variable i.e. wait-time decreases as long as students sit in the cafeteria

## 1.4 Design Concept

### 1.4.1 Observation:

The visualization window of model shows the number of boys and girls visiting the cafeteria. How long the students stay in the cafeteria

## 1.5 Initialization

Simulation started with an empty café. The path which is grey in color is the entrance of the cafeteria. As students enter the cafeteria they sit on their respective seats keeping in mind that no two students of same gender will sit on the same side of the table. Initially the monitors show 0 values for both number of boys and girls. Girls and boys are the turtles of shape “person”.

## 1.6 Input data

The model did not include any input from external source

## 1.7 Sub models

### 1.7.1 Setup:

Agent based modeling is used to model complex problem therefore rather than taking an overly complicated approach we divide the problem in to small chunks and setup model and environment where there are chairs and tables.

### 1.7.2 setup-seats:

Here patches are being colored to setup seats and tables. Patches in grey color shows the patch the entrance of cafeteria.

### 1.7.3 Go (**move-turtles):**

Go contains move-turtles function. Here turtles (girls, boys) will move forward to take their respective seats. Girls will sit on green seats while boys will sit on white seats