**Simulation Report**

**Objective**:  
The simulation aimed to analyze the customer checkout process, focusing on the time spent in the system and the idle time of the checkout clerk.

**Methodology:**

1. **Data Setup**:  
   The simulation involved 20 customers, where key variables such as:
   * **Interarrival Time**: The time between customer arrivals.
   * **Service Time**: The time taken to serve each customer.
   * **Arrival Time**: The actual time the customer arrives for service.
   * **Service Start and End Times**: The exact times when service starts and ends for each customer.
2. **Performance Metrics**:
   * **Waiting Time**: The time a customer waits before service begins.
   * **Time in System**: The total time a customer spends in the system, including waiting and service time.
   * **Idle Time**: The amount of time the checkout clerk is idle between serving customers.
3. **Replications**: The simulation was run over multiple replications to account for variability in the process. Each replication provided:
   * **Average Time in System**: The mean time customers spent in the system.
   * **Percentage Idle Time**: The proportion of time the checkout clerk was not serving customers.

**Conclusion:**

The simulation provided valuable insights into optimizing checkout processes. Reducing idle time and managing arrival-service patterns can enhance efficiency