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| Programming Labs |
| CS304 – Object Oriented Programming |
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| **Department of Computer Science, Virtual University of Pakistan** |

**Lab 01**

Consider the following scenario and identify all objects, their attributes and behaviors.

In Virtual University bookshop, the handouts of all courses are provided at reasonable price. The handouts are made in accordance with the video lectures recorded by famous professors. It is a step to facilitate students to easily digest the course contents.

**Solution:**

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| **BookShop** | |
| **Characteristics (Attributes)** | **Behavior (Operations)** |
| Name  Address  Phone No | Set Order  Get Order  Confirm Order  Deliver Order  Update Order  Receive Payment |

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| **Handouts** | |
| **Characteristics (Attributes)** | **Behavior (Operations)** |
| Title  Author Name  Number of Pages  Number of Chapters  Created Date  Modified Date | Download  Upload  Read  Write  Edit |

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| **Video Lecture** | |
| **Characteristics (Attributes)** | **Behavior (Operations)** |
| Video Lecture No  Video Name  Video Duration  Video URL | Record  Upload  Download  Watch  Stop  Forward  Reverse  Increase Speed  Decrease Speed  Increase Volume  Decrease Volume  Playback |

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| **Professor** | |
| **Characteristics (Attributes)** | **Behavior (Operations)** |
| Name  Age  Gender  Employee ID  Qualification  Specialization  Experience | Teach  Develop Assignment  Develop Quiz  Develop GDB  Prepare Exam  Take Exam  Mark Activities |

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| **Student** | |
| **Characteristics (Attributes)** | **Behavior (Operations)** |
| Name  Age  Gender  Student ID  Study Program  Current Semester  CGPA | Study  Give Exam  Attempt Activities |

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| **Course** | |
| **Characteristics (Attributes)** | **Behavior (Operations)** |
| Course Code  Course Title  Credit Hours  Total Marks  Course Instructor | Add Course Information  Publish Course Information  View Course Information  Edit Course Information |

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| --- | --- |
| **Course Content** | |
| **Characteristics (Attributes)** | **Behavior (Operations)** |
| Number of Topics  Topic No  Topic Description  Composed by  Published by | Upload  View  Write  Edit |

Note: Everyone visualizes real life problems in different ways, so solutions may vary from student to student. Further, Students can also add more Attributes/ Behaviors.