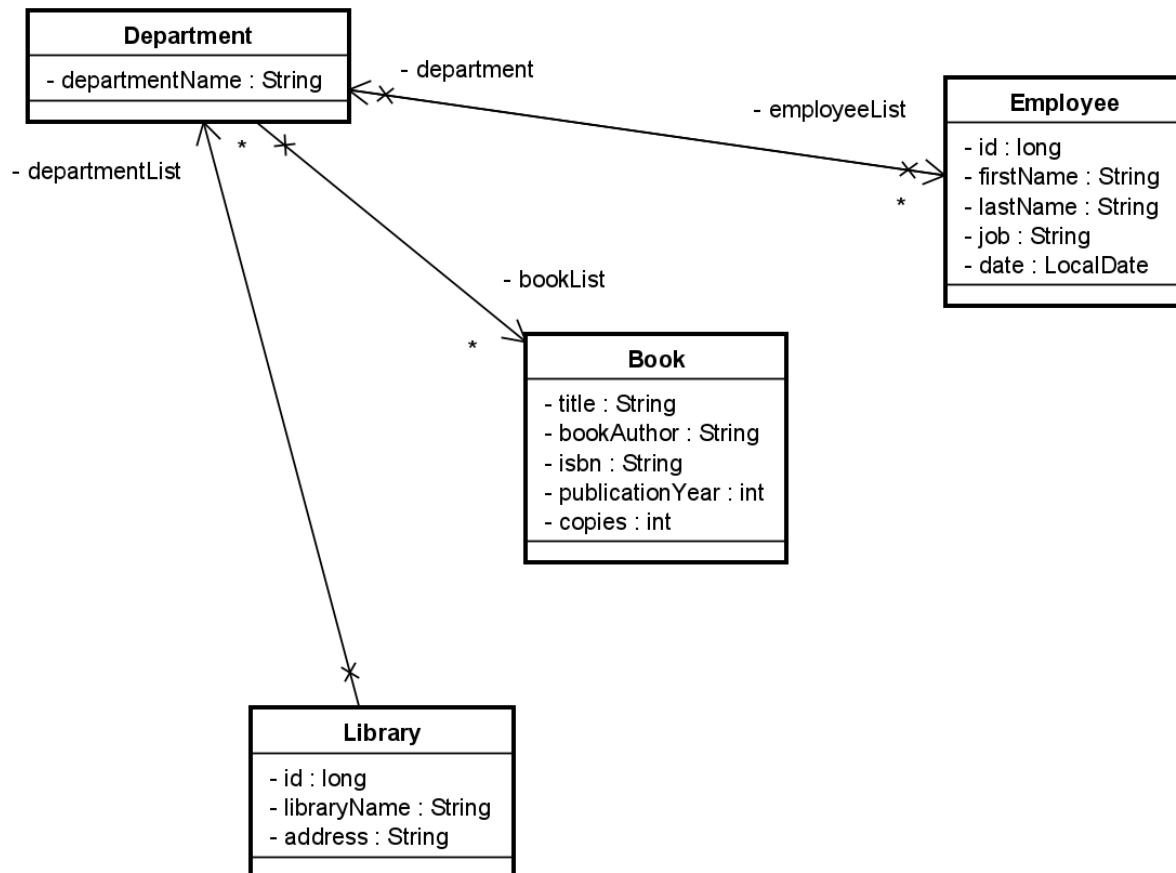


## JACKSON EXERCISE 3

Jackson, JSON, Jackson Annotations

In dieser Übung soll eine JSON-Datei eingelesen und verarbeitet werden. Es wird eine Bibliothek mit Büchern, Abteilungen und Mitarbeitern abgebildet. Das Klassendiagramm finden Sie hier:



Erstellen Sie alle Klassen und Beziehungen wie angegeben und lesen Sie danach mit Hilfe der Jackson Library und deren Annotations die JSON-Datei ein.

1. Lesen Sie die JSON-Datei korrekt ein und geben Sie die Daten auf der Konsole aus.
2. Fügen Sie eine neue Abteilung **Technology** mit mindestens 2 Büchern und 3 Mitarbeitern über Java Code ein.
3. Verringern Sie die Anzahl der Kopien für 2 beliebige Bücher.
4. Schreiben Sie die Datei als **changedLibrary.json** wieder raus.

Gutes Gelingen!

```
{
  "id": 1,
  "name": "Jackson Central Library",
  "address": "123 Main Street",
  "type": "official",
  "departments": [
    {
      "name": "Fiction",
      "books": [
        {
          "title": "Moby Dick",
          "author": "Herman Melville",
          "isbn": "978-0-123456-47-2",
          "publicationYear": 1851,
          "availableCopies": 4
        },
        {
          "title": "1984",
          "author": "George Orwell",
          "isbn": "978-0-123456-47-3",
          "publicationYear": 1949,
          "availableCopies": 2
        },
        {
          "title": "To Kill a Mockingbird",
          "author": "Harper Lee",
          "isbn": "978-0-123456-47-4",
          "publicationYear": 1960,
          "availableCopies": 5
        }
      ]
    },
    {
      "name": "Non-Fiction",
      "books": [
        {
          "title": "Sapiens: A Brief History of Humankind",
          "author": "Yuval Noah Harari",
          "isbn": "978-0-123456-47-5",
          "publicationYear": 2011,
          "availableCopies": 3
        }
      ]
    }
  ]
}
```

```

    },
    {
      "title": "Educated",
      "author": "Tara Westover",
      "isbn": "978-0-123456-47-6",
      "publicationYear": 2018,
      "availableCopies": 5
    }
  ],
  "staff": [
    {
      "id": 2003,
      "first_name": "Sophia",
      "last_name": "Wilson",
      "role": "Manager",
      "hireDate": "2013-04-20"
    },
    {
      "id": 2004,
      "first_name": "Noah",
      "last_name": "Taylor",
      "role": "Researcher",
      "hireDate": "2016-11-15"
    }
  ]
},
{
  "deptName": "Science",
  "books": [
    {
      "title": "Brief Answers to the Big Questions",
      "author": "Stephen Hawking",
      "isbn": "978-0-123456-47-7",
      "publicationYear": 2018,
      "availableCopies": 6
    },
    {
      "title": "The Selfish Gene",
      "author": "Richard Dawkins",
      "isbn": "978-0-123456-47-8",
      "publicationYear": 1976,
      "availableCopies": 2
    },
    {
      "title": "Cosmos",
      "author": "Carl Sagan",
      "isbn": "978-0-123456-47-9",
      "publicationYear": 1980,
      "availableCopies": 3
    }
  ],
  "staff": [
    {
      "id": 2005,
      "first_name": "Olivia",
      "last_name": "Davis",
      "role": "Manager",

```

```
    "hireDate": "2014-03-11"
  },
  {
    "id": 2006,
    "first_name": "Ethan",
    "last_name": "White",
    "role": "Assistant",
    "hireDate": "2018-07-21"
  },
  {
    "id": 2007,
    "first_name": "Mason",
    "last_name": "Walker",
    "role": "Technician",
    "hireDate": "2019-09-09"
  }
]
},
{
  "name": "History",
  "books": [
    {
      "title": "The History of the Ancient World",
      "author": "Susan Wise Bauer",
      "isbn": "978-0-123456-48-0",
      "publicationYear": 2007,
      "availableCopies": 2
    },
    {
      "title": "The Silk Roads",
      "author": "Peter Frankopan",
      "isbn": "978-0-123456-48-1",
      "publicationYear": 2015,
      "availableCopies": 4
    },
    {
      "title": "Guns, Germs, and Steel",
      "author": "Jared Diamond",
      "isbn": "978-0-123456-48-2",
      "publicationYear": 1997,
      "availableCopies": 3
    }
  ],
  "staff": [
    {
      "id": 2008,
      "first_name": "Isabella",
      "last_name": "Martinez",
      "role": "Researcher",
      "hireDate": "2016-01-30"
    },
    {
      "id": 2009,
      "first_name": "Lucas",
      "last_name": "Hernandez",
      "role": "Manager",
      "hireDate": "2012-06-14"
    }
  ]
}
```

```

    }
  ]
},
{
  "name": "Technology",
  "books": [
    {
      "title": "The Innovators",
      "author": "Walter Isaacson",
      "isbn": "978-0-123456-48-3",
      "publicationYear": 2014,
      "availableCopies": 5
    },
    {
      "title": "Clean Code",
      "author": "Robert C. Martin",
      "isbn": "978-0-123456-48-4",
      "publicationYear": 2008,
      "availableCopies": 8
    },
    {
      "title": "The Pragmatic Programmer",
      "author": "Andrew Hunt",
      "isbn": "978-0-123456-48-5",
      "publicationYear": 1999,
      "availableCopies": 4
    }
  ],
  "staff": [
    {
      "id": 2010,
      "first_name": "Ella",
      "last_name": "Moore",
      "role": "Technician",
      "hireDate": "2020-10-11"
    },
    {
      "id": 2011,
      "first_name": "James",
      "last_name": "Johnson",
      "role": "Manager",
      "hireDate": "2017-09-23"
    },
    {
      "id": 2012,
      "first_name": "Ava",
      "last_name": "Brown",
      "role": "Assistant",
      "hireDate": "2021-02-15"
    }
  ]
}
]
}

```