

Case Study

Task: Design a normalized database for the given scenario.

J.K.Rowling (English and born on 31st July 1965) wrote seven parts for the famous Harry Potter series. The first book of this series: Harry Potter and the Philosopher's Stone was first published by Bloomsbury Children's Books in June 1997. The book was published in the US by Scholastic Publishers in 1998. Six further best-selling books followed.

Hogwarts School of Witchcraft and Wizardry (Scotland) is one of the boarding schools of magic for students and is the primary setting for the first six books in J. K. Rowling's Harry Potter series. Some other wizarding schools are:

- 1. Beauxbatons Academy of Magic (France)*
- 2. Castelobruxo (Central Brazil)*
- 3. Durmstrang Institute (Northern Europe)*
- 4. Ilvermorny (Eastern North America)*
- 5. Mahoutokoro School of Magic (Japan)*

A wizarding school is described by its name, the number of houses that it has, current head and deputy head, and the region it is situated in. There are many Characters in the HP series. A character can be defined by at least his name and the books that it has appeared in. Being a school of magic, many subjects are taught at Hogwarts such as Transfiguration, Defense Against the Dark Arts, Charms, Potions, Astronomy, History of Magic, Herbology, Arithmancy, Muggle Studies, Divination, Study of Ancient Runes and Care of Magical Creatures. There are Professors, each specializing in a single subject. All professors are overseen by a school head (principle) who currently is Dumbledore and the deputy head who is Minerva McGonagall. Some of the other professors at Hogwarts, along with their specializations are mentioned below:

<i>Professors</i>	<i>Courses</i>
<i>Cuthbert Binns</i>	<i>History of Magic</i>
<i>Filius Flitwick</i>	<i>Charms</i>
<i>Rubeus Hagrid</i>	<i>Care of Magical Creatures</i>
<i>Remus Lupin</i>	<i>Defense Against the Dark Arts</i>
<i>Minerva McGonagall</i>	<i>Transfiguration</i>
<i>Severus Snape</i>	<i>Potions</i>
<i>Sybill Trelawney</i>	<i>Divination</i>

The OWL (Ordinary Wizarding Level) exams are taken at the end of a student's fifth year at the Hogwarts School of Witchcraft and Wizardry. OWLs are offered in the subjects a student takes in their first five years, and many consist of both written (theory) and practical tests. Courses in which OWLS are offered are Ancient Runes, Arithmancy, History of Magic, Muggle Studies, all of which have written sections only; Astronomy, Care of Magical Creatures, Charms, Defense Against the Dark Arts, Herbology, Potions, Transfiguration, all of which have theory and practical exams; and Divination, which has only a Practical section. Thus, for twelve available subjects, nineteen examination slots are required.

OWLs are graded using the following system:

<i>Passing Grades</i>	<i>Failing Grades</i>
<i>O - Outstanding</i>	<i>P - Poor</i>
<i>E - Exceeds Expectations</i>	<i>D - Dreadful</i>
<i>A - Acceptable</i>	<i>T - Troll</i>

The examiners for OWLs are not Hogwarts professors, but a group of independent examiners referred to as Wizarding Examinations Authority, who work in the Ministry of Magic. The Ministry of Magic is the government body of the wizarding world in Britain, headed by an official entitled the Minister for Magic. Employment with the Ministry can be obtained right after completion of a wizarding education, though different offices require different levels of education and sometimes specific exam results. The Ministry has physical offices in London, deep underground. The Atrium, which is a large, splendid area serves as primary point of entry and exit for wizard traffic in and out of the Ministry Headquarters in London, as well as functioning as a reception area for visitors. The lifts provide access to the other levels (floors) of the magical building, except the tenth level. Given below are the details of different levels in the ministry building along with the departments that are present on those levels.

- 1. Level 1: Office of Minister of Magic and Support Staff*
- 2. Level 2: Department of Magical Law Enforcement*
 - a. Improper Use of Magic Office*
 - b. Auror Headquarters Office*
 - c. Wizengamot Administration Services Office*
- 3. Level 3: Department of Magical Accidents and Catastrophes*
 - a. Accidental Magic Reversal Squad Office*
 - b. Obliviator Headquarters Office*
 - c. Muggle-Worthy Excuses Committee Office*
- 4. Level 4: Department for the Regulation and Control of Magical Creatures*
 - a. Beast, Being and Spirit Divisions Office*
 - b. Pest Advisory Bureau Office*
- 5. Level 5: Department of International Magical Cooperation*
 - a. International Magical Trading Standards Body Office*
 - b. International Magical Office of Law Office*
 - c. International Confederation of Wizards, British Seats Office*
- 6. Level 6: Department of Magical Transportation*
 - a. Floo Network Authority Office*
 - b. Broom Regulatory Control Office*
 - c. Portkey Office*
 - d. Apparition Test Center*
- 7. Level 7: Department of Magical Games and Sports*
 - a. British and Irish Quidditch League Headquarters Office*
 - b. Official Gobstones Club Office*
 - c. Ludicrous Patents Office*
- 8. Level 8: Atrium*
- 9. Level 9: Department of Mysteries*
- 10. Level 10: Courtrooms*

Each department is looked after by a single minister and every office within a single department is headed by a single office in charge. A maximum of only three employees could be working at any ministry office. A single employee may work in not more than two departments simultaneously.