

CO526 Databases Course Work 2: ER Modelling

Due in 12noon Friday 2nd March 2018

Submission

You must submit printed or neatly handwritten answers to all questions to the SAO by the submission deadline.

Background

You are to design a new database to hold data on various species of animals.

Each animal species will be identified by its name, and we will record the average weight, length and lifespan of the species. If a species is extinct, we record the date of the extinction. Where known, we also record for a given species the other species from which the given species evolved.

For all the countries of the world we record the country name, land area of the country, and the name of the main organisation for wildlife monitoring in the country. For all continents we record the continent name, and the land area of the continent.

We record the population of a species that is estimated to live in the land area of each country that falls within each continent (hence, for example, recording separate populations of species that estimated to live in European Russia and Asian Russia).

The species may be divided into reptiles, insects, fish, birds or mammals. However our database will only store information on the last three.

For fish, we will record the number of gills and the number of fins the species has, and the names of all the seas in which the fish is found.

For birds, we will record the average wing span, and if the bird flies or not.

For mammals we record the number of legs and the number of cortical areas found in the brain. If the mammal has a tail, then we record the length of the tail. Some mammals may be classed as placental mammals, and for those placental mammals, we will record the gestation period of offspring, and the size of the placenta.

Questions

1. Design an ER^{ADHKLMNOSVW} Schema to represent the UoD.
2. Map the ER schema into a relational schema.