United International University



Department of Computer Science and Engineering

CSI 341 Artificial Intelligence,

Class Test 3, Spring 2020

1) You have collected data on different species of animals and human about several traits. You want to classify these species into two classes: mammals and non-mammals. The collected data is given below: [10]

A close up of a piece of paper

Description automatically generated

Determine if a species with the traits<Give Birth=yes, Can Fly=no, Live in Water=yes, Have Legs=no> is mammal or non-mammal using a Naive Bayes Classifier.

2) You are doing a research on daily temperature shifts for a city to analyze global warming. You have divided the city temperature in three categories: high, moderate and low. Today is a **high** temperature day. The transition matrix for change in temperature each day has been estimated at table. [10]

|  |  |  |  |
| --- | --- | --- | --- |
| Next Day →  Today↓ | High | Moderate | Low |
| High | 0.7 | 0.1 | 0.2 |
| Moderate | 0.3 | 0.4 | 0.3 |
| Low | 0.2 | 0.4 | 0.4 |

Determine the probability of the temperature being **low** the day after tomorrow.