

**HW 7**

**Ex A**

- 1.** Artificial Intelligence
- 2.a)** decision trees
  - b)** neural networks
  - c)** clustering
- 3.** Rules
- 4.** When data isn't labelled in a way that is favourable to mining.
- 5.** All Types of data storage, from large data warehouses to smaller desktop databases to flat files.
- 6. a)** Refine the parameters
  - b)** Use other data analysis tools to examine the data
- 7.a)** Analysing Supreme Court decisions
  - b)** Discovering patterns in health care
  - c)** Pulling stories about competitors from newswires
  - d)** Resolving bottlenecks in production processes
  - e)** Analysing sequences in the human genetic makeup

**Ex.B**

- 1. a)** iii
  - b)** iv
  - c)** ii
  - d)** i
- 2.a)** False
  - b)** True
  - c)** True
  - d)** True
  - e)** False

**3.** Large amounts of data stored in data warehouses are often used for data mining. The data is first cleansed to remove duplicate data and errors. The data is then analysed using a tool such as artificial intelligence. An analysis report is then analysed by an analyst who decides if the parameters need to be refined, other data analysis tools need to be used, or if the results need to be discarded because they are unusable. The analyst passes the final results to the decision makers who decide on the appropriate action.

### **Data Mining**

- 1.** Data mining is the process of sorting through large data sets to identify patterns and relationships that can help solve business problems through data analysis.
- 2.** Data mining involves exploring and analyzing large blocks of information to glean meaningful patterns and trends. It can be used in a variety of ways, such as database marketing, credit risk management, fraud detection, spam Email filtering, or even to discern the sentiment or opinion of users.
- 3. a)** Future Healthcare
  - b)** Market Basket Analysis
  - c)** Education
  - d)** Manufacturing Engineering
  - e)** CRM
  - f)** Fraud Detection
  - g)** Intrusion Detection
  - h)** Customer Segmentation
  - i)** Financial Banking
  - j)** Research Analysis
  - k)** Criminal Investigation
- 4. a)** Data gathering.
  - b)** Data preparation

**c) Mining the data**

**d) Data analysis and interpretation**

**5.** Data mining makes it possible for businesses and marketers to get customer data from databases powered by artificial intelligence. This allows companies to create better marketing campaigns and marketing strategies.