

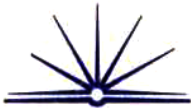
Question 24.

a) Two methods of error detection methods can be 1) parity check 2) CRC (cyclic redundancy check)

1) Parity check: the method of checking for errors uses an additional bit to check whether the data has been transmitted correctly. It adds an extra 1 or 0 bit to the whole data packet, to leave it with an odd number of ones. ie. if the 0th to 7th bit of an 8 bit ^{ASCII code} ~~data~~ is even, then an extra "1" is added to keep it odd. if the 0th to 7th bit is odd then the 8th bit is left "0" to keep it odd.

When the receiver receives the data and checks whether the amount of 1's are ~~an~~ odd the he or she can determine whether it has arrived successfully. If sent in odd then it should be received in odd.

2) The CRC (cyclic redundancy check) is a division process whereby the data packet is divided into predetermined lengths and divided by a fixed divisor. The remainder is then attached to the data packet.



and upon retrieval ~~the~~ the receiver recalculates the ~~data~~ remainder and if the remainder matches it has been received successfully, if the remainder ~~is~~ does not match then an error has occurred.

b) ~~the~~ Madison could use a DBMS software to help process, organize, store and retrieve data with a DBMS.

Using data mining, and DBMS to help provide a solution for the company, in processing, organizing and retrieving data.

* data mining will help identify patterns and relationships between the data collected in Madison with data mining Madison are able to determine a link or relationship between the sales of a particular item purchased and its price. With the information the data mining ~~produces~~ produces the Madison are able to make an informed decision to improve on their business, as they are able to see which item is in demand.



a ~~data~~ DBMS is a software which will allow Madison to have access and manipulate data in their db. The data collected by the company can be processed (manipulated) into fields in a relational db, then it ~~can~~ will be organised in such a way to make it apparent as to what item is purchased and where? These data will be stored into a relational db (database) so it can be linked to a series of related tables. The specific retrieval of data (search) can be done with "query". With this software, Madison are able to see the relationships of fields (data items) which are linked to another table, they can see what is in demand and what, where, who, and how the data are ~~in~~ in a pattern. ~~From~~ ^{With} this knowledge Madison can advance and develop a better marketing strategy knowing what customers normally buy and who, and where.



e) equity, because Pat and Sam has an internal company email account and John doesn't this is not fair for John as he is firstly, unable to communicate with other employees, and secondly this creates social tension as Pat and Sam are able to discuss issues since John is absent.

John, has the right to know what information is being kept away from by Sam and Pat.

The nature of John's work has been changed as he is disadvantaged in a way that he is kept away from certain information.