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|------------------|----------|---|-----------------|----------|--------------------|
| Programme | : | B.Tech | Semester | : | Fall 20-21 |
| Course | : | Data structures and Algorithms(Embedded Lab) | Code | : | CSE2003 |
| Faculty | : | Dr. B. Saleena / Prof.V.M.Nisha | Slot | : | L43+L44+L55 |

Exercise -1

Control Structures, Loops & Arrays

Simple Programs (To revise the concept)

Write programs

- 1) To find the Maximum and Minimum Element in an array.
- 2) To sort the elements in an array
- 3) To count the number of odd and even elements in an array
- 4) To search for an element in an array.
- 5) To sum the number of rows and columns in a 2d array

Scenario Based Programs

- 1) A team of experts formed under the supervision of the prime minister of India conducted a survey on some of the top colleges of India. They were sent to most of the institutions to check on the facilities, academics and infrastructure. The experts' team then gave a report of 50 top universities in India to the prime minister. Prime minister then asks them to make two lists – One list containing the top10 universities and the second list containing the remaining universities. Write a C program to depict the above scenario and display the results.
- 2) A cafe sells two types of cola drinks. The drinks each come in three sizes: small, medium and large. At the beginning of the day the fridge was stocked with the number of units shown in the matrix below. At the end of the day the stock was again counted.

| | | Start of the day | | | | At the end of the day | |
|--------|---|------------------|---------|--------|---|-----------------------|---------|
| | | Brand C | Brand P | | | Brand C | Brand P |
| small | → | 42 | 54 | small | → | 27 | 31 |
| medium | → | 36 | 27 | medium | → | 28 | 15 |
| large | → | 34 | 30 | large | → | 28 | 22 |

The profit matrix for each item is:

| | | |
|--------|--------|--------|
| small | medium | large |
| \$0.75 | \$0.55 | \$1.20 |

Implement the program to calculate the total profit made for the day from the sale of these drinks.