1. Type in and run all programs presented in lecture note 11. Briefly describe the theory/ concept you learned from these programs separately.

2. Find the minimum and maximum of sequence of 10 numbers stored in array.

3. Find the total and average of a sequence of 10 numbers stored in array.

4. Following list represents the data units used by three persons. Create an array to store these details and print the list.

person	work	mobile	home
1	500	1000	300
2	10	1800	200
3	200	400	700

   Find the following using the above table;
   I.   Find the total unit consumed.
   II.   Find the total consumption of units for each phone type.
   III.   Who consumed maximum unites for mobile phones?
   IV.   Who pays highest phone bill?
   V.   Who pays lower phone bill?
   VI.   How many units are consumed by person 3?

5. Write a program to store students' marks for COM1407 subject. Assume there are 10 students in the class. You have to store marks in a 2D array as shown below.

Mid term examination (20%)	Portfolio (10%)	End semester examination (100%)	Final Marks (70%)	Total (mid term examination +portfolio +final marks)	Rounded Marks

   Note: Use keyboard input appropriately.

Find the following using the above entered marks;

    I.   Display detailed mark sheet

   II.   Find the highest marks for midterm examination, portfolio work and end semester examination separately

  III.   Find the student count based on the following criteria

        a. Rounded Marks >= 90% : Grade A
        b. Rounded Marks >= 80% : Grade B
        c. Rounded Marks >= 70% : Grade C
        d. Rounded Marks >= 60% : Grade D
        e. Rounded Marks >= 40% : Grade E
        f. Rounded Marks < 40% : Grade F

Your output should be displayed as follows

Grade	Count
A	→
B	→
C	→
D	→
E	→

6. Assume a village has 20 houses. Input electricity unit charges and calculate total electricity bill according to the following criteria:

- For first 50 units Rs. 0.50/unit
- For next 100 units Rs. 0.75/unit
- For next 100 units Rs. 1.20/unit
- For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill

    I.   Write a program to store house address, units consumed, surcharge and total amount separately in arrays.

   II.   Display the detailed monthly consumption report of the village using the following order

Serial Number:	House Address	Units	Surcharge	Amount to be paid

  III.   Calculate the total earnings of the month
  IV.   Calculate the total units consumed

7. Extend the following program that you did in Tutorial 05 to store the processed bills in a buffer.

   Develop a program to a cashier system for a shop.

   Your system should display following prompt for the cashier and the entire program is controlled according to the command given by the cashier.

   Welcome to <shop name>

   Press S → Start

   Press Q → Quit

   Press P → Process Bill

   Your option : _

   Once you press S: System will display welcome message and ready for processing a bill by initializing required variables.

   Once you press Q: You can shut down the cashier system.

   Once you press P: Process the current customer's shopping cart. Here, you can enter the item code, qty, unit price of the items in shopping cart and calculate and display the total

   Once you finished serving to the current customer, you can press N to move to the prompt.

8. Design a program for payroll department to calculate the monthly payment of 10 employees. Use arrays appropriately. Finally you need to display 10 pay sheets one after the other.