Digital Design Verification

Assignment # 03

ARRAYS

Release: 1.1

Date: 27-April-2024

NUST Chip Design Centre (NCDC), Islamabad, Pakistan

Revision History

Revision Number	Revision Date	Nature of Revision	Designed By
1.1	30/07/2024	Complete manual	Hira Sohail

TASK # 01:

Write a program to enter the population of 10 cities. Store them in the array.
Now perform the following operations on these arrays.

- Print the population in reverse order
- Print the maximum and minimum population
- Print the average population

Flow Chart: 25 Minutes **Code:** 25 Minutes

TASK # 02:

A small airline has just purchased a computer for its new automated reservations system. The president has asked you to program the new system. You'll write a program to assign seats on each flight of the airline's only **plane (**capacity: 10 seats). Your program should display the following menu of alternatives: Please type 1 for "first class**"** **Please** type 2 for "economy" If the person types 1, then your program should assign a seat in the **first-class** section (seats 1–5). If the person types 2, then your program should assign a seat in the economy section (seats 6–10). Your program should then print a boarding pass indicating the **person's** seat number and whether it's in the **first class** or economy section of the plane. Use a single-subscripted array to represent the seating chart of the plane. Initialize all the elements of the array to 0to indicate that all seats are empty. As each seat is assigned, set the corresponding element of the array to 1 to indicate that the seat is no longer available. Your program should, of course, never assign a seat that has already been assigned. When the **first-class** section is full, your program should ask the person if it's acceptable to be placed in the economy section (and vice versa). **If yes**, then make the appropriate seat assignment. If not, then print the message "Next flight leaves in 3 hours."
Flow Chart: 20 Minutes **Code:** 20 Minutes

Submission:

Please submit .c files of all the tasks along with the screenshots of outputs on LMS in a proper report. Add snaps of flow charts to your report.