

Array, Structure and Union

Time-span: One lab day (2 hrs.)

1.1 Problem:

Component development for the different types of User access mechanism.

1.2 Description:

Nepal Digital Servo Company develops and sales multiple digital services to individual users as well as corporate users. Here, the individual user can use single license for the digital services and the corporate users can have at most 25 users in a group and can use their 25 licenses individually. The following 2D table describes data for the user licenses of the 5 different users of the company.

ID	User Name	User Type	License Keys	Price	No of Licenses
1	ram	individual	aXz5	\$5k	
2	eec	corporate	by3K, 66Y2, 4Uee & oQ5r	\$15k	4
3	pec	corporate	Lrc4, rc8K & 22Y8	\$10k	3
4	kec	corporate	8tW2, uU5e, pPi0, eR71, Tup4 & v9Bg	\$25k	6
5	sam	individual	bB39	\$5k	

1.3 Solution:

- Represent the different users and their license keys using array of unions (class) and enumerations.
- Your program module needs to include different functionalities:
 - Given the user name, for e.g. 'kec' should return the amount that they have paid for the services.

- Given the user name, for e.g. 'sam' should return the type of user.
- Given the user name and the license key, it should return “Access Granted” if the entries are present the records or “Access Denied” otherwise.
- Write a function that shows the summary of following information:

No. of Users: 5

No. of Licenses Given: 15

Total Amount Collected: \$60k

1.4 Implementation: You can write this program in any language of your choice, but we prefer C/C++ in this case as we are learning Data Structure and Algorithms in C/C++ languages.
