CHANDIGARH UNIVERSITY

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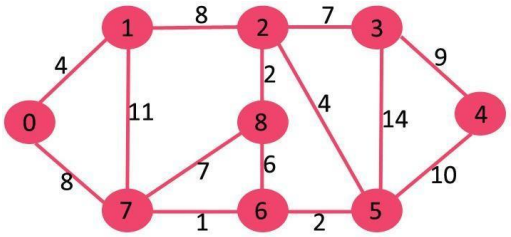
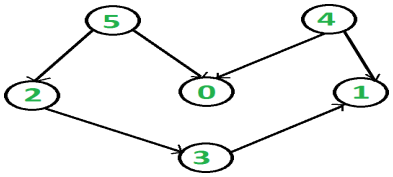
Apex Institute of Technology

Program Name: BE CSE (AIML)

Final Experiment File

Semester	:	5th
Subject Name	:	Advanced Programming (Lab)
Subject Code	:	CSP-334
Subject Teacher	:	Mrs. Lata Gupta
Submitted By	:	Pankaj Singh Kanyal (20BCS6668)

S.NO.	Experiment	Signature of Teacher	Signature of Student
	UNIT-I		
1	WAP in C++ to find the Kth smallest/largest element in an array using template and C++ STL.		
2	A left rotation operation on a vector of size N shifts each of the array's elements 1 unit to the left. For example, if 2 left rotations are performed on array [1,2,3,4,5], then the array would become[3,4,5,1,2]. Given a vector of n integers and a number, d , perform d left rotations on the array. Then print the updated array as a single line of space-separated integers. Print a single line of n space-separated integers denoting the final state of the array after performing d left rotations		
3	You are given a string containing characters A and B only. Your task is to change it into a string such that there are no matching adjacent characters. To do this, you are allowed to delete zero or more characters in the string. Your task is to find the minimum number of required deletions. For example, given the string s=AABAAB, remove an A at positions 0 and 3 to make s=ABAB in 2 deletions.		
4	Write a program to maintain an elementary database of employees using files.		
	Unit 2		
5	a. From a given vertex in a weighted connected graph, find shortest paths to other vertices using Dijkstra's algorithm.  b. Compute the transitive closure of a given directed graph using Warshall's algorithm.		
6	Obtain the Topological ordering of vertices in a given digraph.  		
7	Implement N Queens problem using Backtracking.		
8	Implement Travelling Salesperson problem using Dynamic programming.		
	Unit 3		
9	Design a quick sort with random pivoting using the Lomuto partition scheme.		
10	Demonstrate insert, delete and search in Treap.		