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| **https://upload.wikimedia.org/wikipedia/commons/thumb/4/4e/VU_Logo.png/260px-VU_Logo.png** | **Parallel and Distributed Computing (CS621)**  Assignment # 02 Fall 2023 | **Total marks= 20**  **Deadline Date  16 January 2024** |

**Solution:**

1. **Construct task dependency graph for the given query.**

Karachi OR Lahore AND (2022 OR 2020)

Karachi OR Lahore

Lahore

Karachi

(2022 OR 2020)

2022

20202001

City=(“Karachi” OR “Lahore”) AND YEAR= (“2022” OR ”2020”) AND Sales = (”$8000” OR ”$14000” OR ”$9000” AND Name="Ali").

($8000 OR $14000 OR $9000) AND ALi

Ali

($8000 OR $14000 OR $9000)

$9000

($8000 OR $14000)

$14000

$8000

1. **Find Critical path (by mentioning each node value in a sequence).**
   1. $14000, ($8000 OR $14000), ($8000 OR $14000 OR $9000), Ali AND   
       ($8000 OR $14000 OR $9000), City=(“Karachi” OR “Lahore”) AND YEAR= (“2022” OR ”2020”) AND Price = (”$18000” OR ”$19000” OR ”$20000”) AND COLOR="Ali".

OR

* 1. $8000, ($8000 OR $14000), ($8000 OR $14000 OR $9000), Ali AND   
     ($8000 OR $14000 OR $9000), City=(“Karachi” OR “Lahore”) AND YEAR= (“2022” OR ”2020”) AND Price = (”$18000” OR ”$19000” OR ”$20000”) AND COLOR="Ali".

OR

* 1. There can another sequence

1. **Compute Average degree of concurrency of task dependency graph (where the amount of work required to complete the task at each node is: 12)**

Critical path length: 60

Total work: 180

Average degree of concurrency: 3

**Best of Luck!!!**