**UNIVERSITY OF THE PUNJAB**

**GUJRANWALA CAMPUS**

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**Department of Information Technology**

**Computer Vision**

**Assignment**

* **Submitted by:**

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* **Session:**

BSIT 7th semester

* **Roll no:**

(BIT21021) Morning

* **Submitted to:**

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**Topic:**

**City Block Distance (MATLAB Code)**

% City Block Distance Calculation with Visualization

% Define points

p1 = [1, 2]; % Replace with your first point (x1, y1)

p2 = [4, 6]; % Replace with your second point (x2, y2)

% Calculate City Block Distance

cityBlockDistance = sum(abs(p2 - p1));

% Display the result

fprintf('City Block Distance between points [%d, %d] and [%d, %d] is: %.2f\n', ...

p1(1), p1(2), p2(1), p2(2), cityBlockDistance);

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**% Visualization**

figure;

hold on;

plot([p1(1), p2(1)], [p1(2), p1(2)], 'r--'); % Horizontal line

plot([p2(1), p2(1)], [p1(2), p2(2)], 'b--'); % Vertical line

scatter(p1(1), p1(2), 'filled', 'r'); % Point 1

scatter(p2(1), p2(2), 'filled', 'b'); % Point 2

text(p1(1), p1(2), ' P1', 'VerticalAlignment', 'bottom');

text(p2(1), p2(2), ' P2', 'VerticalAlignment', 'bottom');

title('City Block Distance Visualization');

grid on;

hold off;

**Output:**

