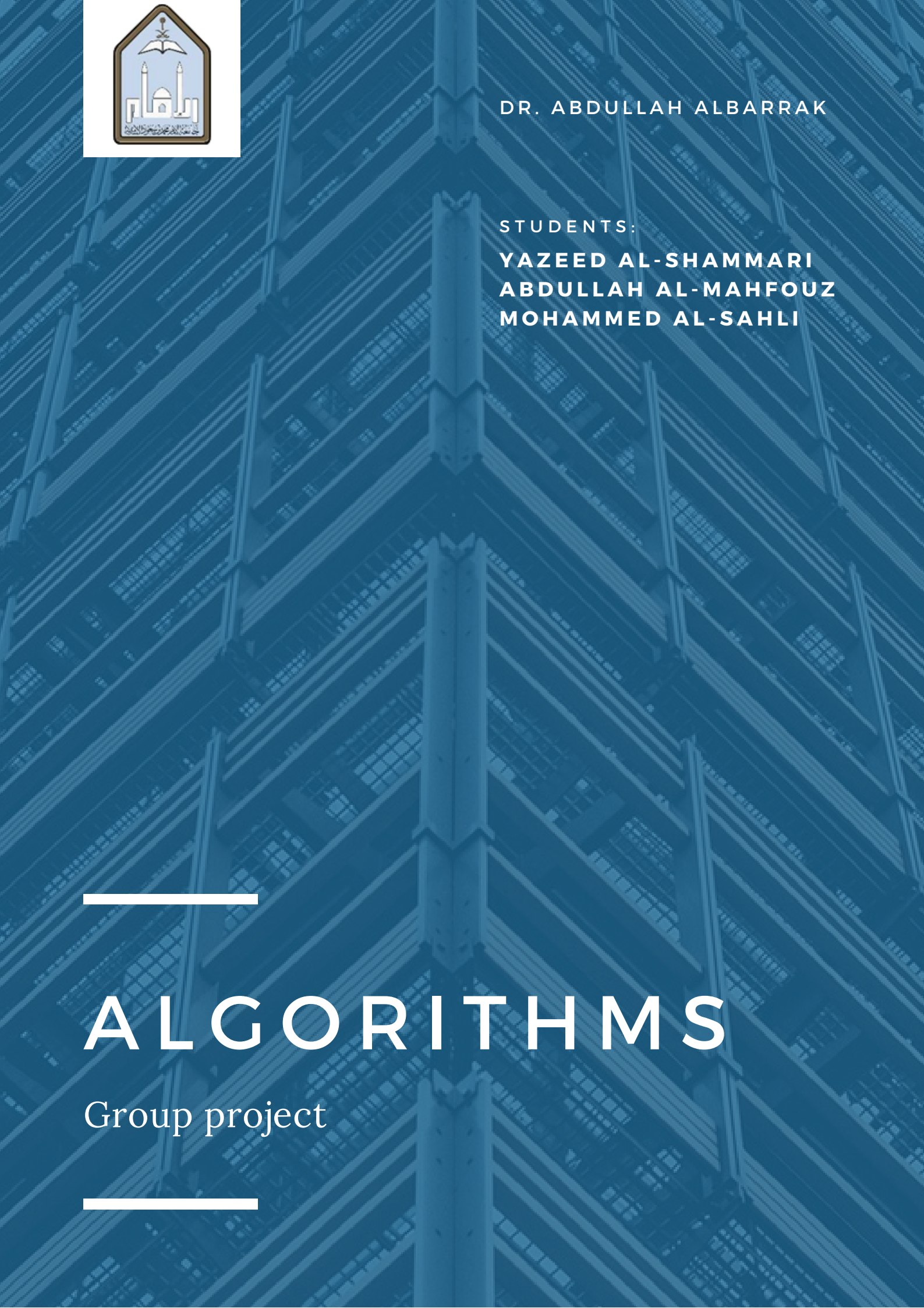

DR. ABDULLAH ALBARRAK

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ALGORITHMS

Group project

PSEUDOCODE

```
int[] nr = { -1, 0, 1, 0 }
int[] nc = { 0, 1, 0, -1 }
int row = number of rows
int col  = number of columns
int[][] dist = new int[rows][columns]
int y = dist[0][0]
   for i = 0 to rows

      for j = 0 to columns

         dist[i][j] = ∞

   dist[0][0] = y

 PriorityQueue<Cell> pq = new PriorityQueue<Cell>(row * col, new Compare())

   pq.add(new Cell(0, 0, dist[0][0]));

  while pq is not empty
     Cell curr = pq.poll

      for i = 0 to n
// n is the number of rows and columns NxN

         int rows = curr.x + nr[i]
         int cols = curr.y + nc[i]

         if (rows and columns are inside the the table)

            if (dist[rows][cols] > dist[curr.x][curr.y] + grid[rows][cols])


               if (dist[rows][cols] != ∞)

                  Cell adj = new Cell(rows, cols, dist[rows][cols])
                     pq.remove(adj)


               dist[rows][cols] = dist[curr.x][curr.y] + grid[rows][cols]

               pq.add(new Cell(rows, cols, dist[rows][cols]))

           return dist[row - 1][col - 1]
```

BIG O AND JAVA FILE

Big O :
O(N^2 log N)

Java file:
Click here