Prims

```
import java.util.Scanner;

class prims {
   static int arr[][] = new int[20][20];
   static int n;
   static Scanner sc = new Scanner(System.in);

   public static void main(String args[]) {
      printsolution();
      prim();
   }

   static void printsolution() {
      System.out.println("Enter the number of nodes");
      n = sc.nextInt();
      System.out.println("Enter the adjacency Matrix");
      for (int i = 1; i <= n; i++) {
         for (int j = 1; j <= n; j++) {
            arr[i][j] = sc.nextInt();
            if (arr[i][j] == 0) {
               arr[i][j] = 999;
            }
         }
      }
   }

   static void prim() {
      int visited[] = new int[20];
      int ne = 1, i, j, a = 0, b = 0, u = 0, v = 0, min = 0;
      int mincost = 0;
```

```
        visited[1] = 1;

        while (ne < n) {

            for (i = 1,min=999; i <= n; i++) {
                for (j = 1; j <= n; j++) {
                    if (arr[i][j] < min) {
                        if (visited[i] != 0) {
                            min = arr[i][j];
                            a = u = i;
                            b = v = j;
                        }
                    }
                }
            }
            if (visited[u] == 0 || visited[v] == 0) {
                System.out.println("Edge " + ne++ + " (" + a + "," + b + ") cost: " + min);
                mincost += min;
                visited[b] = 1;
            }
            arr[a][b] = arr[b][a] = 999;
        }
        System.out.println("The Minimum cost is " + mincost);
    }
}
```