prim.md

```
def prim(n, W):
    i = 0
    vnear = 0
    edge = (0,0)
    min = -sys.maxint - 1
    nearest = []
    distance = []
    F = []
    for i in range (0,n):
        nearest.append(0)
        distance.append(W[0][i])

    for x in range (0,n-1):
        min = sys.maxsize
        for i in range(1,n):
            if ( distance[i] >= 0 and distance[i] < min):
                min = distance[i]
                vnear = i
        e = ( vnear, nearest[vnear])
        F.append(e)
        distance[vnear] = -1
        for i in range(1,n):
            if ( W[i][vnear] < distance[i] ):
                distance[i] = W[i][vnear]
                nearest[i] = vnear
    return F
```

```
def get_dist_edge_list(edge_list, matrix):
    total = 0
    for i in range(0,len(edge_list)):
        a = edge_list[i][0]
        b = edge_list[i][1]
        total = total + matrix[a][b]
    return total
```

```
    n = 5

    W = [
            [ 0,   3,  inf, 11, inf ],
            [ 3,   0,  12,  6,  9   ],
            [ inf, 12, 0,   4,  4   ],
            [ 11,  6,  4,   0,  2   ],
            [ inf, 9,  4,   2,  0   ]
        ]
```