⊕ Line Drawing Algorithm
1. ⊕ ~~Imcrement~~ find zone Algorithm
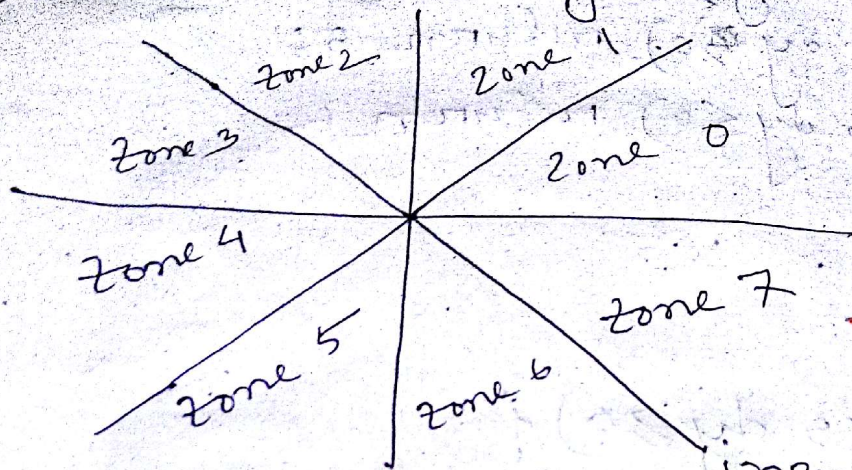
input (x_0, y_0, x_1, y_1)

$$double \ dx = x_1 - x_0$$
$$double \ dy = y_1 - y_0$$

```
if ( fabs(dx) >= fabs(dy) ) {
    if ( dx >= 0 && dy >= 0 ) return 0;
    if ( dx <= 0 && dy >= 0 ) return 3;
    if ( dx <= 0 && dy <= 0 ) return 4;
    if ( dx >= 0 && dy <= 0 ) return 7;
}
else {
```

```
if (dx >= 0 && dy >= 0) return 1;
if (dx <= 0 && dy >= 0) return 2;
if (dx <= 0 && dy <= 0) return 5;
if (dx >= 0 && dy <= 0) return 6;
}
```

option 2:

```
if (dx >= 0 && dy >= 0) {
    if (fabs(dx) >= fabs(dy)) return 0;
    else return 1;
}

if (dx <= 0 && dy >= 0) {
    if (fabs(dx) >= fabs(dy)) return 3;
    return 2;
}

if (dx <= 0 && dy >= 0) {
    if (fabs(dx) >= fabs(dy)) return 4;
    return 5;
}
```

```
if ( fabs( dx >, 0  && dy <= 0) {
    if ( fabs (dx) >, fabs(dy)) return 7;
    return 6;
}
```