Input

```
3 5 2 8 7 9 5
1 7
2 7
3 8
2 9
1 9
```

Output

```
Duck Dodgers reaches the Illudium Phosdex first
Duck Dodgers' path:

3,5 - 4,5 - 5,5 - 6,6 - 6,7 - 7,8 - 7,9
Marvin the Martian's path:

2,8 - 1,8 - 0,9 - 1,10 - 2,10 - 3,10 - 4,10 - 5,10 - 6,10 - 7,10 - 7,9
```

Maps

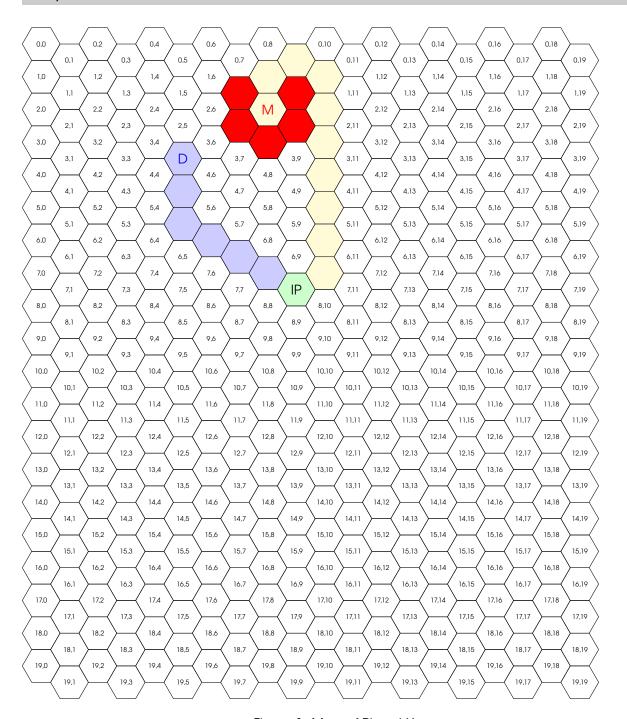


Figure 1: Map of Planet X