# Bomberman

Bomberman is a popular game where a player is trapped in a room and is expected to get out by finding the key. In this version of the game, the room consists of breakable bricks, unbreakable walls and Villains. The player need to grab the key to win the game.

## Level 1:

Create a NxN map where N is always an even number (Max Size = 26)

P - Player
* - Wall
B - Brick
V - Villain
K - Key

-> First row and First column for location identification.
-> Walls position is always fixed.

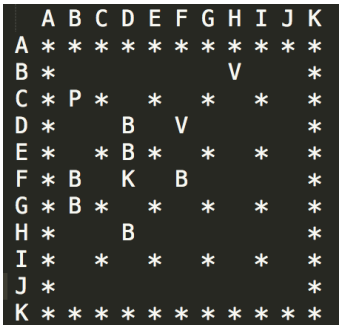
***Input:***

Map Size
User position
Key position
No of Villains and their position
No of Bricks and their position

***Sample Input:***

Map size: 12
Player position: CB
Key position:FD
Villain count:2
V1: BH
V2: DF
Brick count:6
B1: DD
B2: ED
B3: FB
B4: FF
B5: GB
B6: HD

***Sample Output:***




**Note:** An element should not be placed on top of another element.

## Level 2:

The Player can move in all 8 directions.

W - Move up
S - Move down
A - Move left
D - Move right
Q - Move diagonally up left
Z - Move diagonally down left
E - Move diagonally up right
C - Move diagonally down right

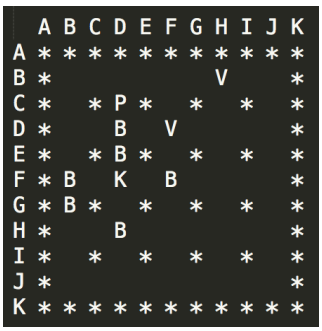
-> The player can not move to a position if there is a Wall or Brick
-> If there is a Villain where the player moves. The player dies
-> If there is a Key where the player moves. The player wins the game

-> The player can plant a bomb to destroy Bricks and Villains.
X - Bomb

***Map:***


***Sample Input:***
C

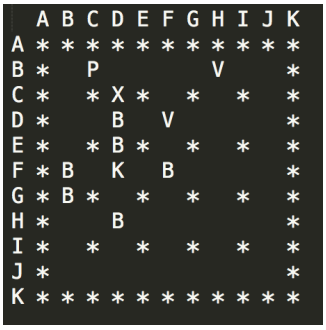
***Sample Output:***




-> Player position in above image is CD. Now the player plants a bomb in CD. Then moves to BC

***Sample Input:***
X
1 Plant
2 Detonate
1

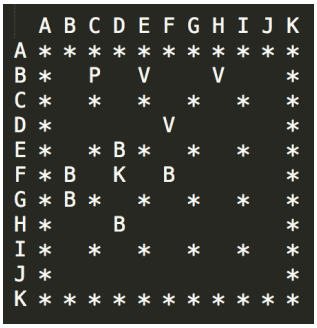
***Sample Output:***




-> When the player moves out of the position the Bomb should display in the map. (Note: Again the player can not move on top of the Bomb)

-> The Bomb blast only in up, down, left, right directions and has the range of 1
-> If a Player plant a Bomb, then the player can not plant another Bomb until the first one detonates

***Sample Input:***
X
1 Plant
2 Detonate
2



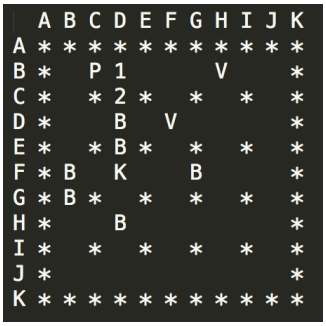

***Note:*** -> If the player is inside the Bomb blast range. Then the player dies
-> Print the map each and every time after an input

## *Level 3:*

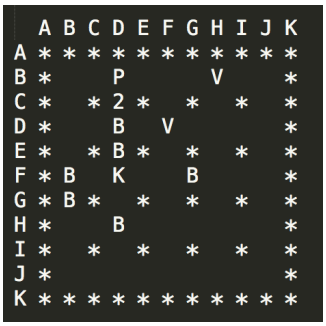
-> In this Level the map will contain 3 Powers.
1 - Bomb Blast Range + 1
2 - Bomb can blast in diagonal direction
3 - Bomb count + 1

-> Get the position of powers 1,2 while creating the map.

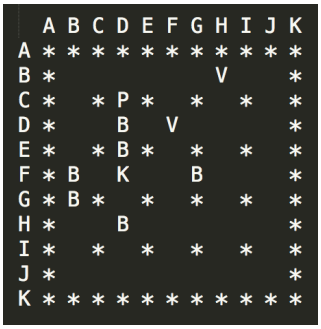
***Sample Output:***



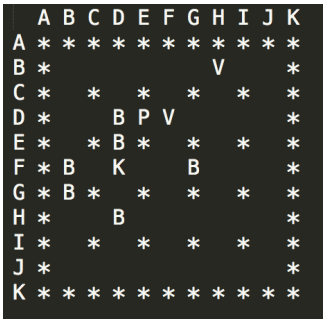

-> The Player moves to BD and gets the power 1



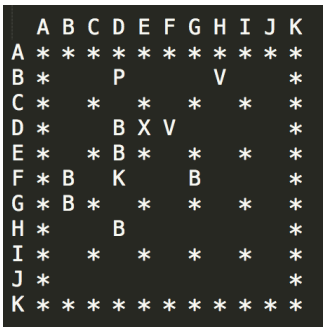

-> The Player moves to CD and gets the power 2



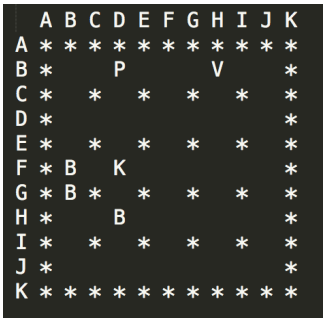

-> Then the Player moves to DE and plants a Bomb




-> Then the Player moves to CD and to BD

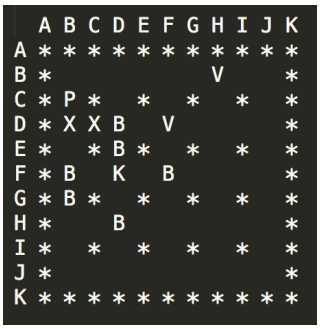



-> Now the Player detonates the Bomb




***Power 3 :***

-> If the player gets this power, the Bomb count increases by 1 (ie: The player can plant another Bomb while another Bomb already planted in the map)




-> If the Player got Power 3.
-> Ask whether to plant or detonate always.

-> As you can see the Player planted two bombs one in DB and another in DC
-> Now to detonate bomb Press 'X' and press '2' which blasts every bomb in the map.
-> If no bomb is planted and if the input is 2(Detonate) then print "No bomb is planted to detonate"

## ***Level 4:***

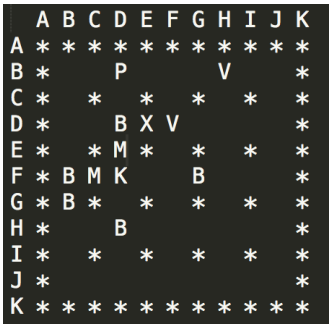
-> In this level, there will be a Dynamite which also denotes when it is triggered only by

other blast
-> Dynamite always has the range of 1. And blasts in all directions
-> Get the position of Dynamite while creating the map

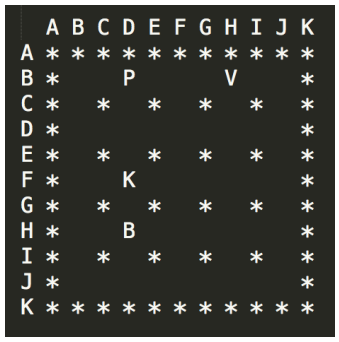
M - Dynamite

***Sample Output:***

-> Now Player P has power 1 and 2



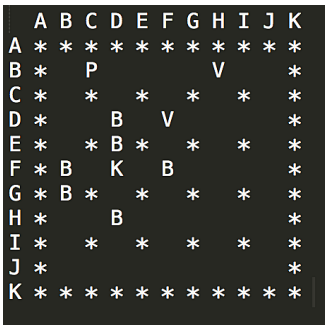

-> Now the Player detonates the Bomb - 'X'



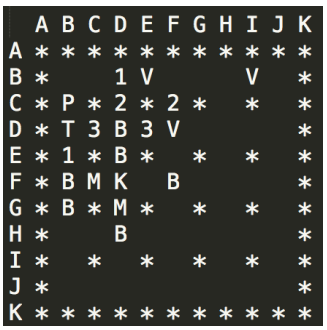

## ***Level 5:***

-> The player can plant a Timer Bomb.

T - Timer Bomb
Time = 3




-> Player moves to DB  and places a bomb return back to CB




-> The Bomb detonates when the player moves 3 positions in any direction.
-> Timer Bomb always has the count - 1, range - 1, directions - (up, left, right, down)

***Note:*** The player can plant both the Ordinary bombs and Timer bomb at different position.

## ***Level 6:***

-> In this level, the Villains has also the ability to move in a direction
    -> A Villain can move either in Horizontal or Vertical Direction

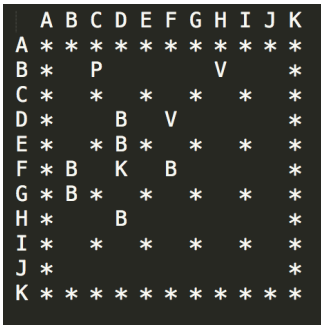
-> While creating the map get the direction of each villain
    -> HRL - Horizontal Left
    -> HRR - Horizontal Right
    -> VRU - Vertical Up
    -> VRD - Vertical Down

-> When Player moves one position in any direction. Then every Villain moves one position
-> If a Villain hits a Wall,Brick,Power,Key,Any Bomb then they moves in opposite direction
-> If Villains hits each other they die.

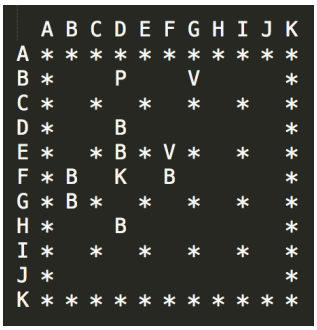
***Sample Input:***

Map size: 12
Player position: BC
Key position:FD
Villain count:3
V1: BH
Dir: HRL
V2: DF
Dir: VRD
Brick count:6
B1: DD
B2: ED
B3: FB
B4: FF
B5: GB
B6: HD

***Sample Output:***




-> Now Player moves to BD. Then each Villains moves one position



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## Test Cases:

***Level 1:***

***T1***: To check whether the map prints correctly

```
mSize = 12;   //Map Size
player = "CB";    //Player Location
key = "FD";    //Key Location
vCount = 3;   // Villain Count
villain[0]="BI";   //Villain Location
villain[1]="DF";  //Villain Location
villain[2]="BE";  //Villain Location
bCount = 6;   //Bricks Count
brick[0]="DD";  //Bricks Location
brick[1]="ED";  //Bricks Location
brick[2]="FB";  //Bricks Location
brick[3]="FF";  //Bricks Location
brick[4]="GB";  //Bricks Location
brick[5]="HD";  //Bricks Location
```

***T2***: To check whether any element on top of other element

```
mSize = 12;
player = "CB";
key = "CB";
vCount = 3;
villain[0]="BI";
villain[1]="DF";
villain[2]="BE";
bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";
brick[3]="FF";
```

***T3***: To check whether any element on top of other element

```
mSize = 12;
player = "CB";
key = "FD";
vCount = 3;
villain[0]="BI";
```

villain[1]="DF";
villain[2]="BE";
bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";
brick[3]="FB";

***T4***: To check whether any element on top of other element
mSize = 12;
player = "AC";
key = "FD";
vCount = 3;
villain[0]="BI";
villain[1]="ED";
villain[2]="BE";
bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";
brick[3]="FF";

***Level 2:***

***Input:***

mSize = 12;
player = "CB";
key = "FD";
vCount = 3;
villain[0]="BI";
villain[1]="DF";
villain[2]="BE";
bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";
brick[3]="FF";
brick[4]="GB";
brick[5]="HD";

***T1:***

Move to EB. And Plant a bomb check whether brick alone destroys

***T2:***

Move to DE. And Plant a bomb check whether side brick and villain alone destroys

***T3:***

Move to FE. And Plant a bomb check whether right brick alone destroys

***T4:***

Plant a bomb near the player and detonate it. Check whether Player dies.

***T5:***

Check whether the player able to plant only one bomb

***Level 3:***

***Input:***

```
mSize = 12;
player = "CB";
key = "FD";
vCount = 3;
villain[0]="BI";
villain[1]="DF";
villain[2]="BE";
bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";
brick[3]="FF";
brick[4]="GB";
brick[5]="HD";

rCount = 2;     //Bomb Range + 1 Power
range[0]="BD"; //Power 1 Location
range[1]="EB"; //Power 1 Location
dCount = 2;  //Diagonal Power
diag[0]="CD"; //Power 2 Location
diag[1]="CF"; //Power 2 Location
bombCount = 2; //Bomb Count + 1 Power
bombs[0]="DC"; //Power 3 Location
```

bombs[1]="DE"; //Power 3 Location

***T1:***

Move to EB get Power 1 and plant a bomb at EB and move to BB. Detonate the bomb and Check whether the bomb has blast range 2 which destroys the bomb at FB and GB

***T2:***

Move to EB get Power 1, Move to BD get Power1, Move to CD get Power 2 and Move to DE get Power 3. Then plant bomb at DE itself and Move to DB. Detonate the Bomb.

-> Destroyed places DD,ED,DF,GB

Note: Make sure you didn't get power 3 at location DC

***T3:***

-> Move to EB get Power 1, Move to DC get Power 3, Move to CD get Power 2, Move to BD get Power1, Move to DE get Power 3. Place a bomb one at DE and another at EB. Then move to BB to detonate the bombs.

-> Destroyed places DD,ED,DF,GB,FB,BE

***Level 4:***

***Input:***

mSize = 12;
player = "CB";
key = "FD";
vCount = 3;
villain[0]="BI";
villain[1]="DF";
villain[2]="BE";
bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";
brick[3]="FF";
brick[4]="GB";
brick[5]="HD";

rCount = 2;
range[0]="BD";

range[1]="EB";
dCount = 2;
diag[0]="CD";
diag[1]="CF";
bombCount = 2;
bombs[0]="DC";
bombs[1]="DE";

dyCount = 2; //Dynamite Count
dynamo[0]="FC"; //Dynamite Location
dynamo[1]="GD"; //Dynamite Location

***T1:***

-> Move to BD get power 1, Move to CD get power 2, Move to DE get power 3. And place bomb in DE itself. Then Move to BB

-> Destroyed places DD,ED,DF,GB,FB,FC,GD,HD

***Level 5:***

***Input:***

mSize = 12;
player = "CB";
key = "FD";
vCount = 3;
villain[0]="BI";
villain[1]="DF";
villain[2]="BE";
bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";
brick[3]="FF";
brick[4]="GB";
brick[5]="HD";

rCount = 2;
range[0]="BD";

range[1]="EB";
dCount = 2;
diag[0]="CD";
diag[1]="CF";
bombCount = 2;
bombs[0]="DC";
bombs[1]="DE";

dyCount = 2;
dynamo[0]="FC";
dynamo[1]="GD";

***T1:***

-> Move to EB get Power 1, Move to DC get Power 3, Move to CD get Power 2, Move to BD get Power1, Move to DE get Power 3. Place a timer bomb  at DE . Then move to BC to detonate the bomb (Which automatically blast).
-> Destroyed  places DD,DF

***Level 6:***

***Input:***

mSize = 12;
player = "CB";
key = "FD";
vCount = 4
villain[0]="DH";
villainDir[0]="HRL"; //Villain Direction
villain[1]="EH";
villainDir[1]="VRU"; //Villain Direction
villain[2]="DG";
villainDir[2]="HRR"; //Villain Direction
villain[3]="CH";
villainDir[3]="VRD; //Villain Direction

bCount = 6;
brick[0]="DD";
brick[1]="ED";
brick[2]="FB";

brick[3]="FF";
brick[4]="GB";
brick[5]="HD";

rCount = 2;
range[0]="BD";
range[1]="EB";
dCount = 2;
diag[0]="CD";
diag[1]="CF";
bombCount = 2;
bombs[0]="DC";
bombs[1]="DE";

dyCount = 2;
dynamo[0]="FC";
dynamo[1]="GD";

***T1:***

Move to any location. Villain's destroyed location CH,DH,EH,DG

***T2:*** Change Villain's postion alone with below inputs

vCount = 4
villain[0]="DH";
villainDir[0]="HRL"; //Villain Direction
villain[1]="EH";
villainDir[1]="VRU"; //Villain Direction
villain[2]="DI";
villainDir[2]="HRR"; //Villain Direction
villain[3]="CH";
villainDir[3]="VRD; //Villain Direction

-> Move to any location. Villain's destroyed location CH,DH,EH,DI

***T3:*** Change Villain's postion alone with below inputs

vCount = 2
villain[0]="BE";
villainDir[0]="VRU"; //Villain Direction
villain[1]="BH";
villainDir[1]="HRR"; //Villain Direction

-> Move to any location. BE Villain can't move becasue no space up and down.
BH should move right. Check whether BH bounce back to opposite direction after hitting the wall. Then move the BH villain to BE Villain postion. Check whether both villain dies.

***T4:***

-> Chech whether Player dies when player and villain dashes at particular position.