

```

#include <stdio.h>
#include <stdlib.h>
#include <conio.h>
#include <time.h>
#include <math.h>
int main(){
    srand(time(NULL));

    int space[10][10] = {0} , z , x , y ;

    int
treex,treey,i,j,d,flaghero_x,flaghero_y,flagmonster_x
,flagmonster_y;

    int Taxicab,Chebyshev;

    double Euclidean;

    printf("input before the last student id : ");
scanf("%d",&x); // x = 2

    printf("input the last student id : ");
scanf("%d",&y); // y = 9

    printf("input your birthday : "); scanf("%d",&z);
// z = 2

    space[z][y] = 2; //Specify Hero location
    space[10-z][x] = 3; //Specify Monster location
    printf("-----\n");

    random :

    treex = rand() % 10;

    treey = rand() % 10;

    if (treex == z && treey == y) goto random;
//prevent tree Overlap on hero position

    if (treex == 10-z && treey == x) goto random;
//pervent tree Overlap on monster position

    space[treex][treey] = 1;

```

```

for(i=9;i>=0;i--)
{
    for(j=0;j<=9;j++)
        printf(" %d",space[j][i]);
    printf("\n");
}

Taxicab = abs(x)+abs(y-(10-z));
Euclidean = sqrt(pow(y-z,2)+pow(x-(10-z),2));
if(abs(y)>abs(x-(10-z)))d=abs(y);
else d=abs(x-(10-z));
Chebyshev = d;

printf("-----\n");
printf("Taxicab    distance = %d\n",Taxicab);
printf("Euclidean distance = %.2f\n",Euclidean);
printf("Chebyshev distance = %d",Chebyshev);
}

```

```

C:\Users\Administrator\Desktop\JOB\Bonus 1.exe
input before the last student id : 2
input the last student id : 9
input your birthday : 2
-----
0 0 2 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 3 0
0 0 0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0 0 0
-----
Taxicab    distance = 3
Euclidean distance = 9.22
Chebyshev distance = 9
-----
Process exited after 3.093 seconds with return value 0
Press any key to continue . . .

```