```cpp
#include <iostream>
#include <ctime>
#include <cmath>
#include <algorithm>
using namespace std;

//            min
int minfunction(int timelist[])
{
    int result = timelist[0];
    for (int i = 1; i < 500; i++)
    {
        if (timelist[i] < result)
        {
            result = timelist[i];
        }
    }
    return result;
}

//

struct character
{
    int floor;
    int locationx;
    int locationy;
    int distance;
    int exit;
};

int main()
{
    int floor = 2;

    int people[floor] = {10, 20};

    int exit1[floor] = {0};
    int exit3[floor] = {0};
    int exit5[floor] = {0};

    //
    character charlist2[people[0]];
    character charlist3[people[1]];

    for (int i = 0; i < people[0]; i++)
    {
        charlist2[i].floor = 2;
    }
```

```
50
51      for (int i = 0; i < people[1]; i++)
52      {
53          charlist3[i].floor = 3;
54      }
55      //
56      int location2x[] = {1, 2, 3, 4, 6, 7, 2, 8, 8, 5};
57      int location2y[] = {1, 4, 5, 4, 2, 1, 14, 10, 16, 7};
58
59      int location3x[] = {1, 5, 2, 5, 4, 6, 8, 5, 2, 4, 6, 1,
            3, 3, 3, 5, 4, 8, 7, 1};
60      int location3y[] = {1, 5, 4, 9, 12, 10, 3, 17, 20, 11,
            5, 4, 14, 16, 5, 15, 2, 11, 6, 7};
61      //    cout<<"the location of people on floor 2 are: ";
62      for (int i = 0; i < people[0]; i++)
63      {
64          charlist2[i].locationx = location2x[i];
65          charlist2[i].locationy = location2y[i];
66          //        cout<<"("<<charlist2[i].locationx<<","<<
                charlist2[i].locationy<<")"<<" ";
67      }
68      //    cout<<endl;
69      //    cout<<"the location of people on floor 3 are: ";
70      for (int i = 0; i < people[1]; i++)
71      {
72          charlist3[i].locationx = location3x[i];
73          charlist3[i].locationy = location3y[i];
74          //        cout<<"("<<charlist3[i].locationx<<","<<
                charlist3[i].locationy<<")"<<" ";
75      }
76      //    cout<<endl;
77      int exit12cc;
78      int exit22cc;
79      int exit32cc;
80      int exit13cc;
81      int exit23cc;
82      int exit33cc;
83      int exit12ppeople[1000];
84      int exit13ppeople[1000];
85      int exit22ppeople[1000];
86      int exit23ppeople[1000];
87      int exit32ppeople[1000];
88      int exit33ppeople[1000];
89      int distribution2[1000];
90      int distribution3[1000];
91
92      int exit12ccc;
93      int exit22ccc;
94      int exit32ccc;
95      int exit13ccc;
```

```
    int exit23ccc;
    int exit33ccc;
    int exit12pppeople[1000];
    int exit13pppeople[1000];
    int exit22pppeople[1000];
    int exit23pppeople[1000];
    int exit32pppeople[1000];
    int exit33pppeople[1000];
    int distribbution2[1000];
    int distribbution3[1000];

    //
    int timelist[500] = {};
    int final;
    for (int i = 0; i < 500; i++)
    {
        timelist[i] = 1000;
    }
    int min = 10000;
    int timee;
    for (int l = 0; l < 500; l++)
    {
        for (int m = 0; m < 500000; m++)
        {

            srand(time(0));
            //    cout<<"distribution of floor 2 people: ";
            for (int i = 0; i < people[0]; i++)
            {
                charlist2[i].exit = (rand()) % 3 + 1;
                //        cout<<charlist2[i].exit<<" ";
            }

            //    cout<<endl;
            //    cout<<"distribution of floor 3 people: ";
            for (int i = 0; i < people[1]; i++)
            {
                charlist3[i].exit = (rand()) % 3 + 1;
                //        cout<<charlist3[i].exit<<" ";
            }
            //    cout<<endl;
            //


            int exit12c = 0;
            int exit22c = 0;
            int exit32c = 0;

            int exit13c = 0;
            int exit23c = 0;
```

```
144             int exit33c = 0;
145
146             //    cout<<"the distances of floor 2: ";
147             for (int i = 0; i < people[0]; i++)
148             {
149                 if (charlist2[i].exit == 1)
150                 {
151                     exit12c++;
152                     charlist2[i].distance = abs(charlist2[i
                            ].locationx - 4) + abs(charlist2[i].
                            locationy - 12);
153                     //           cout<<charlist2[i].distance
                            <<" ";
154                 }
155                 else if (charlist2[i].exit == 2)
156                 {
157                     exit22c++;
158                     charlist2[i].distance = abs(charlist2[i
                            ].locationx - 8) + abs(charlist2[i].
                            locationy - 20);
159                     //           cout<<charlist2[i].
                            distance<<" ";
160                 }
161                 else
162                 {
163                     exit32c++;
164                     charlist2[i].distance = abs(charlist2[i
                            ].locationx - 8) + abs(charlist2[i].
                            locationy - 8);
165                     //           cout<<charlist2[i].
                            distance<<" ";
166                 }
167             }
168             //    cout<<endl;
169             //    cout<<"the distances of floor 3: ";
170             for (int i = 0; i < people[1]; i++)
171             {
172                 if (charlist3[i].exit == 1)
173                 {
174                     exit13c++;
175                     charlist3[i].distance = abs(charlist3[i
                            ].locationx - 4) + abs(charlist3[i].
                            locationy - 12);
176                     //           cout<<charlist3[i].
                            distance<<" ";
177                 }
178                 else if (charlist3[i].exit == 2)
179                 {
180                     exit23c++;
181                     charlist3[i].distance = abs(charlist3[i
```

```
                ].locationx - 8) + abs(charlist3[i].
                locationy - 20);
182             //            cout<<charlist3[i].
                distance<<" ";
183         }
184         else
185         {
186             exit33c++;
187             charlist3[i].distance = abs(charlist3[i
                ].locationx - 8) + abs(charlist3[i].
                locationy - 8);
188             //            cout<<charlist3[i].distance
                <<" ";
189         }
190     }
191     //    cout<<endl;
192     //   e x i t 1
193     //    cout<<endl;
194     //    cout<<"the distances of people escape from
         the exit1 on floor 2 are: ";
195     int exit12people[exit12c] = {0};
196     int exit12peoplecount = 0;
197     for (int i = 0; i < people[0]; i++)
198     {
199         if (charlist2[i].exit == 1)
200         {
201             exit12people[exit12peoplecount] =
                charlist2[i].distance;
202             //            cout<<exit12people[
                exit12peoplecount]<<" ";
203             exit12peoplecount++;
204         }
205     }
206     //    cout<<endl;
207     //    cout<<"the distances of people escape from
         the exit1 on floor 3 are: ";
208     int exit13people[exit13c] = {0};
209     int exit13peoplecount = 0;
210     for (int i = 0; i < people[1]; i++)
211     {
212         if (charlist3[i].exit == 1)
213         {
214             exit13people[exit13peoplecount] =
                charlist3[i].distance;
215             //            cout<<exit13people[
                exit13peoplecount]<<" ";
216             exit13peoplecount++;
217         }
218     }
219
```

```
220             //   e x i t 2
221             //     cout<<endl;
222             //     cout<<"the distances of people escape
                    from the exit2 on floor 2 are: ";
223             int exit22people[exit22c] = {0};
224             int exit22peoplecount = 0;
225             for (int i = 0; i < people[0]; i++)
226             {
227                 if (charlist2[i].exit == 2)
228                 {
229                     exit22people[exit22peoplecount] =
                        charlist2[i].distance;
230                     //            cout<<exit22people[
                        exit22peoplecount]<<" ";
231                     exit22peoplecount++;
232                 }
233             }
234             //    cout<<endl;
235             //   cout<<"the distances of people escape from
                    the exit2 on floor 3 are: ";
236             int exit23people[exit23c] = {0};
237             int exit23peoplecount = 0;
238             for (int i = 0; i < people[1]; i++)
239             {
240                 if (charlist3[i].exit == 2)
241                 {
242                     exit23people[exit23peoplecount] =
                        charlist3[i].distance;
243                     //            cout<<exit23people[
                        exit23peoplecount]<<" ";
244                     exit23peoplecount++;
245                 }
246             }
247
248             //   e x i t 3
249             //     cout<<endl;
250             //     cout<<"the distances of people escape
                    from the exit3 on floor 2 are: ";
251             int exit32people[exit32c] = {0};
252             int exit32peoplecount = 0;
253             for (int i = 0; i < people[0]; i++)
254             {
255                 if (charlist2[i].exit == 3)
256                 {
257                     exit32people[exit32peoplecount] =
                        charlist2[i].distance;
258                     //            cout<<exit32people[
                        exit32peoplecount]<<" ";
259                     exit32peoplecount++;
260                 }
```

```
261             }
262             //    cout<<endl;
263             //    cout<<"the distances of people escape from
                    the exit3 on floor 3 are: ";
264             int exit33people[exit33c] = {0}; // distance
265             int exit33peoplecount = 0;
266             for (int i = 0; i < people[1]; i++)
267             {
268                 if (charlist3[i].exit == 3)
269                 {
270                     exit33people[exit33peoplecount] =
                            charlist3[i].distance; //
                                                10s
271                     //           cout<<exit33people[
                            exit33peoplecount]<<" ";
272                     exit33peoplecount++;
273                 }
274             }
275
276             //    cout<<endl;
277             //    cout<<exit12c<<" "<<exit22c<<" "<<exit32c
                    <<endl;
278             //   cout<<exit13c<<" "<<exit23c<<" "<<exit33c<<
                    endl;
279
280             //     for(int i=0;i<exit12c;i++)
281             //     {
282             // //        cout<<exit12people[i]<<" ";
283             //     }
284             // //    cout<<endl;
285             //     for(int i=0;i<exit13c;i++)
286             //     {
287             // //        cout<<exit13people[i]<<" ";
288             //     }
289
290             //                                          :exit1
291             //                       2
292
293             int early12;
294             int late12;
295             for (int i = 0; i < exit12c - 1; i++)
296             {
297                 for (int j = 0; j < exit12c - 1; j++)
298                 {
299                     if (exit12people[j] > exit12people[j +
                            1])
300                     {
301                         int temp = exit12people[j];
302                         exit12people[j] = exit12people[j +
                                1];
```

```
                exit12people[j + 1] = temp;
            }
        }
    }
    early12 = exit12people[0];
    late12 = exit12people[exit12c - 1];
    //                      3

    int early13;
    int late13;
    for (int i = 0; i < exit13c - 1; i++)
    {
        for (int j = 0; j < exit13c - 1; j++)
        {
            if (exit13people[j] > exit13people[j +
                1])
            {
                int temp = exit13people[j];
                exit13people[j] = exit13people[j +
                    1];
                exit13people[j + 1] = temp;
            }
        }
    }
    early13 = exit13people[0];
    late13 = exit13people[exit13c - 1];
    //    cout<<endl;
    //    cout<<"early13 is: "<<early13<<" "<<"
        late13 is: "<<late13<<endl;

    int now13 = 0;
    int count13 = 1;
    while (count13 < exit13c)
    {
        if ((exit13people[now13] - exit13people[
            now13 + 1]) >= 0)
        {
            exit13people[now13 + 1] += (abs(
                exit13people[now13] - exit13people[
                now13 + 1]) + 1);
            count13++;
        }
        else
        {
            count13++;
        }
        now13++;
    }
    // cout<<endl;
    // cout<<"the exit13 are: ";
```

```
347             // for(int i=0;i<exit13c;i++)
348             // {
349             //     cout<<exit13people[i]<<" ";
350             // }
351             // int now12 = 0;
352             // int count12 = 1;
353             // while (count12 < exit12c)
354             // {
355             //     if ((exit12people[now12] - exit12people[
                    now12 + 1]) >= 0)
356             //     {
357             //         exit12people[now12 + 1] += (abs(
                        exit12people[now12] - exit12people[now12 +
                        1]) + 1);
358             //         count12++;
359             //     }
360             //     else
361             //     {
362             //         count12++;
363             //     }
364             //     now12++;
365             // }
366
367             // cout<<endl;
368             // cout<<"the exit12 are: ";
369             // for(int i=0;i<exit12c;i++)
370             // {
371             //     cout<<exit12people[i]<<" ";
372             // }
373
374             for (int i = 0; i < exit13c; i++)
375             {
376                 exit13people[i] += 10;
377             }
378
379             int exit1people[exit13c + exit12c];
380
381             for (int i = 0; i < exit12c; i++)
382             {
383                 exit1people[i] = exit12people[i];
384             }
385             for (int i = exit12c; i < exit13c + exit12c; i
                    ++)
386             {
387                 exit1people[i] = exit13people[i - exit12c];
388             }
389             for (int i = 0; i < exit12c + exit13c; i++)
390             {
391                 for (int j = 0; j < exit12c + exit13c; j++)
392                 {
```

```
                if (exit1people[j] > exit1people[j + 1])
                {
                    int mid = exit1people[j];
                    exit1people[j] = exit1people[j + 1];
                    exit1people[j + 1] = mid;
                }
            }
        }
        int now1 = 0;
        int count1 = 1;
        while (count1 < exit12c + exit13c)
        {
            if (exit1people[now1] - exit1people[now1 +
                1] >= 0)
            {
                exit1people[now1 + 1] += (abs(
                    exit1people[now1] - exit1people[now1
                    + 1]) + 1);
                count1++;
            }
            else
            {
                count1++;
            }
            now1++;
        }
        // cout<<endl;
        // cout<<"the exit1 are: ";
        // for(int i=0;i<exit13c+exit12c;i++)
        // {
        //     cout<<exit1people[i]<<" ";
        // }

        int time1 = exit1people[exit13c + exit12c - 1] +
             10;
        // cout << "time1 is: " << time1 << endl;

        //    cout<<"time1 is: "<<time1<<endl;
        //                                        :exit2
        //                      2

        int early22;
        int late22;
        for (int i = 0; i < exit22c - 1; i++)
        {
            for (int j = 0; j < exit22c - 1; j++)
            {
                if (exit22people[j] > exit22people[j +
                    1])
                {
```

```
                int temp = exit22people[j];
                exit22people[j] = exit22people[j +
                    1];
                exit22people[j + 1] = temp;
            }
        }
    }
    early22 = exit22people[0];
    late22 = exit22people[exit22c - 1];
    //                      3

    int early23;
    int late23;
    for (int i = 0; i < exit23c - 1; i++)
    {
        for (int j = 0; j < exit23c - 1; j++)
        {
            if (exit23people[j] > exit23people[j +
                1])
            {
                int temp = exit23people[j];
                exit23people[j] = exit23people[j +
                    1];
                exit23people[j + 1] = temp;
            }
        }
    }
    early23 = exit23people[0];
    late23 = exit23people[exit23c - 1];

    //    cout<<"early23 is: "<<early23<<" "<<"
        late23 is: "<<late23<<endl;
    int now23 = 0;
    int count23 = 1;
    while (count23 < exit23c)
    {
        if ((exit23people[now23] - exit23people[
            now23 + 1]) >= 0)
        {
            exit23people[now23 + 1] += (abs(
                exit23people[now23] - exit23people[
                now23 + 1]) + 1);
            count23++;
        }
        else
        {
            count23++;
        }
        now23++;
    }
```

```
481
482             // int now22 = 0;
483             // int count22 = 1;
484             // while (count22 < exit22c)
485             // {
486             //     if ((exit22people[now22] - exit22people[
                    now22 + 1]) >= 0)
487             //     {
488             //         exit22people[now22 + 1] += (abs(
                    exit22people[now22] - exit22people[now22 +
                    1]) + 1);
489             //         count22++;
490             //     }
491             //     else
492             //     {
493             //         count22++;
494             //     }
495             //     now22++;
496             // }
497
498             for (int i = 0; i < exit23c; i++)
499             {
500                 exit23people[i] += 10;
501             }
502             int exit2people[exit23c + exit22c];
503             for (int i = 0; i < exit22c; i++)
504             {
505                 exit2people[i] = exit22people[i];
506             }
507             for (int i = exit22c; i < exit23c + exit22c; i
                ++)
508             {
509                 exit2people[i] = exit23people[i - exit22c];
510             }
511
512             for (int i = 0; i < exit22c + exit23c; i++)
513             {
514                 for (int j = 0; j < exit22c + exit23c; j++)
515                 {
516                     if (exit2people[j] > exit2people[j + 1])
517                     {
518                         int mid = exit2people[j];
519                         exit2people[j] = exit2people[j + 1];
520                         exit2people[j + 1] = mid;
521                     }
522                 }
523             }
524
525             int now2 = 0;
526             int count2 = 1;
```

```
527             while (count2 < exit22c + exit23c)
528             {
529                 if (exit2people[now2] - exit2people[now2 +
                        1] >= 0)
530                 {
531                     exit2people[now2 + 1] += (abs(
                            exit2people[now2] - exit2people[now2
                            + 1]) + 1);
532                     count2++;
533                 }
534                 else
535                 {
536                     count2++;
537                 }
538                 now2++;
539             }
540
541             int time2 = exit2people[exit23c + exit22c - 1] +
                    10;
542             // cout << "time2 is: " << time2 << endl;
543             //    cout<<"time2: "<<time2<<endl;
544             //                                          :exit3
545             //                      2
546
547             int early32;
548             int late32;
549             for (int i = 0; i < exit32c - 1; i++)
550             {
551                 for (int j = 0; j < exit32c - 1; j++)
552                 {
553                     if (exit32people[j] > exit32people[j +
                            1])
554                     {
555                         int temp = exit32people[j];
556                         exit32people[j] = exit32people[j +
                                1];
557                         exit32people[j + 1] = temp;
558                     }
559                 }
560             }
561             early32 = exit32people[0];
562             late32 = exit32people[exit32c - 1];
563
564             //                      3
565
566             int early33;
567             int late33;
568             for (int i = 0; i < exit33c - 1; i++)
569             {
570                 for (int j = 0; j < exit33c - 1; j++)
```

```
571                 {
572                     if (exit33people[j] > exit33people[j +
                        1])
573                     {
574                         int temp = exit33people[j];
575                         exit33people[j] = exit33people[j +
                            1];
576                         exit33people[j + 1] = temp;
577                     }
578                 }
579             }
580             early33 = exit33people[0];
581             late33 = exit33people[exit33c - 1];
582             //    cout<<"early33 is: "<<early33<<" "<<"
                    late33 is: "<<late33<<endl;
583             int now33 = 0;
584             int count33 = 1;
585             while (count33 < exit33c)
586             {
587                 if ((exit33people[now33] - exit33people[
                        now33 + 1]) >= 0)
588                 {
589                     exit33people[now33 + 1] += (abs(
                            exit33people[now33] - exit33people[
                            now33 + 1]) + 1);
590                     count33++;
591                 }
592                 else
593                 {
594                     count33++;
595                 }
596                 now33++;
597             }
598
599             // int now32 = 0;
600             // int count32 = 1;
601             // while (count32 < exit32c)
602             // {
603             //     if ((exit32people[now32] - exit32people[
                    now32 + 1]) >= 0)
604             //     {
605             //         exit32people[now32 + 1] += (abs(
                    exit32people[now32] - exit32people[now32 +
                    1]) + 1);
606             //         count32++;
607             //     }
608             //     else
609             //     {
610             //         count32++;
611             //     }
```

```
612             //      now32++;
613             // }
614
615             for (int i = 0; i < exit33c; i++)
616             {
617                 exit33people[i] += 10;
618             }
619             int exit3people[exit33c + exit32c];
620             for (int i = 0; i < exit32c; i++)
621             {
622                 exit3people[i] = exit32people[i];
623             }
624             for (int i = exit32c; i < exit33c + exit32c; i
                    ++)
625             {
626                 exit3people[i] = exit33people[i - exit32c];
627             }
628
629             for (int i = 0; i < exit32c + exit33c; i++)
630             {
631                 for (int j = 0; j < exit32c + exit33c; j++)
632                 {
633                     if (exit3people[j] > exit3people[j + 1])
634                     {
635                         int mid = exit3people[j];
636                         exit3people[j] = exit3people[j + 1];
637                         exit3people[j + 1] = mid;
638                     }
639                 }
640             }
641
642             int now3 = 0;
643             int count3 = 1;
644             while (count3 < exit32c + exit33c)
645             {
646                 if (exit3people[now3] - exit3people[now3 +
                        1] >= 0)
647                 {
648                     exit3people[now3 + 1] += (abs(
                            exit3people[now3] - exit3people[now3
                            + 1]) + 1);
649                     count3++;
650                 }
651                 else
652                 {
653                     count3++;
654                 }
655                 now3++;
656             }
657
```

```
658             int time3 = exit3people[exit33c + exit32c - 1] +
                    10;
659             // cout << "time3 is: " << time3 << endl;
660             //    cout<<"time3 is: "<<time3<<endl;
661             //                  exit
662
663             timee = max(max(time1, time2), time3);
664             // cout<<"timee is: "<<timee<<endl;
665             // cout<<"exit12c is: "<<exit12c<<endl;
666             // cout<<"exit22c is: "<<exit22c<<endl;
667             // cout<<"exit32c is: "<<exit32c<<endl;
668             // cout<<"exit13c is: "<<exit13c<<endl;
669             // cout<<"exit23c is: "<<exit23c<<endl;
670             // cout<<"exit33c is: "<<exit33c<<endl;
671             // timelist[m]=time;
672
673             if (min >= timee)
674             {
675                 min = timee;
676                 exit12cc = exit12c;
677                 exit22cc = exit22c;
678                 exit32cc = exit32c;
679                 exit13cc = exit13c;
680                 exit23cc = exit23c;
681                 exit33cc = exit33c;
682                 for (int i = 0; i < exit12cc; i++)
683                 {
684                     exit12ppeople[i] = exit12people[i];
685                 }
686                 for (int i = 0; i < exit13cc; i++)
687                 {
688                     exit13ppeople[i] = exit13people[i];
689                 }
690                 for (int i = 0; i < exit22cc; i++)
691                 {
692                     exit22ppeople[i] = exit22people[i];
693                 }
694                 for (int i = 0; i < exit23cc; i++)
695                 {
696                     exit23ppeople[i] = exit23people[i];
697                 }
698                 for (int i = 0; i < exit32cc; i++)
699                 {
700                     exit32ppeople[i] = exit32people[i];
701                 }
702                 for (int i = 0; i < exit33cc; i++)
703                 {
704                     exit33ppeople[i] = exit33people[i];
705                 }
706
```

```
                for (int i = 0; i < people[0]; i++)
                {
                    distribution2[i] = charlist2[i].exit;
                }
                for (int i = 0; i < people[1]; i++)
                {
                    distribution3[i] = charlist3[i].exit;
                }
            }
            // cout<<"min is: "<<min<<endl;
        }
        // cout<<"min is: "<<min<<endl;
        int previous = minfunction(timelist);
        // cout<<"previous is: "<<previous<<endl;
        timelist[l] = min;
        final = minfunction(timelist);
        // cout<<"final is: "<<final<<endl;
        if (final < previous)
        {
            final = min;
            exit12ccc = exit12cc;
            exit22ccc = exit22cc;
            exit32ccc = exit32cc;
            exit13ccc = exit13cc;
            exit23ccc = exit23cc;
            exit33ccc = exit33cc;
            for (int i = 0; i < exit12ccc; i++)
            {
                exit12pppeople[i] = exit12ppeople[i];
            }
            for (int i = 0; i < exit13ccc; i++)
            {
                exit13pppeople[i] = exit13ppeople[i];
            }
            for (int i = 0; i < exit22ccc; i++)
            {
                exit22pppeople[i] = exit22ppeople[i];
            }
            for (int i = 0; i < exit23ccc; i++)
            {
                exit23pppeople[i] = exit23ppeople[i];
            }
            for (int i = 0; i < exit32ccc; i++)
            {
                exit32pppeople[i] = exit32ppeople[i];
            }
            for (int i = 0; i < exit33ccc; i++)
            {
                exit33pppeople[i] = exit33ppeople[i];
            }
```

```
757
758             for (int i = 0; i < people[0]; i++)
759             {
760                 distribbution2[i] = distribution2[i];
761             }
762             for (int i = 0; i < people[1]; i++)
763             {
764                 distribbution3[i] = distribution3[i];
765             }
766         }
767     }
768
769     //
770     //  int min=timelist[0];
771
772     // for(int m=0;m<500000;m++)
773     // {
774     //     if(timelist[m]<min)
775     //     {
776     //         min=timelist[m];
777     //     }
778     // }
779     // cout<<min<<endl;
780
781     cout << endl;
782
783     cout << "The minimum time for everyone excape from the
        building is: " << final << "s" << endl;
784     // cout << endl;
785     // cout << "The number of people exit from exit1 on
        floor 2 is: " << exit12ccc << endl;
786     // cout << "The number of people exit from exit2 on
        floor 2 is: " << exit22ccc << endl;
787     // cout << "The number of people exit from exit3 on
        floor 2 is: " << exit32ccc << endl;
788     // cout << "The number of people exit from exit1 on
        floor 3 is: " << exit13ccc << endl;
789     // cout << "The number of people exit from exit2 on
        floor 3 is: " << exit23ccc << endl;
790     // cout << "The number of people exit from exit3 on
        floor 3 is: " << exit33ccc << endl;
791
792     cout << endl;
793     cout << "the distribution of floor 2 are: ";
794     for (int i = 0; i < people[0]; i++)
795     {
796         cout << distribbution2[i] << " ";
797     }
798     cout << endl;
799     cout << "the distribution of floor 3 are: ";
```

```
800     for (int i = 0; i < people[1]; i++)
801     {
802         cout << distribbution3[i] << " ";
803     }
804     cout << endl;
805     cout << endl;
806     cout << "The second floor people's distances from the
        nearest exit1 are: ";
807     for (int i = 0; i < exit12ccc; i++)
808     {
809         cout << exit12pppeople[i] << " ";
810     }
811     cout << endl;
812
813     cout << "The second floor people's distances from the
        nearest exit2 are: ";
814     for (int i = 0; i < exit22ccc; i++)
815     {
816         cout << exit22pppeople[i] << " ";
817     }
818     cout << endl;
819
820     cout << "The second floor people's distances from the
        nearest exit3 are: ";
821     for (int i = 0; i < exit32cc; i++)
822     {
823         cout << exit32pppeople[i] << " ";
824     }
825     cout << endl;
826
827     cout << "The third floor people's distances from the
        nearest exit1 are: ";
828     for (int i = 0; i < exit13ccc; i++)
829     {
830         cout << exit13pppeople[i] << " ";
831     }
832     cout << endl;
833
834     cout << "The third floor people's distances from the
        nearest exit2 are: ";
835     for (int i = 0; i < exit23ccc; i++)
836     {
837         cout << exit23pppeople[i] << " ";
838     }
839     cout << endl;
840
841     cout << "The third floor people's distances from the
        nearest exit3 are: ";
842     for (int i = 0; i < exit33ccc; i++)
843     {
```

```
        cout << exit33pppeople[i] << "␣";
    }
    cout << endl;
}
```

Listing 1: Building Escape Simulation Code