Hazard

Rule 451
Neighbours

Increase 10x chances to win at Loto 6/49

Loto, winning probabilities

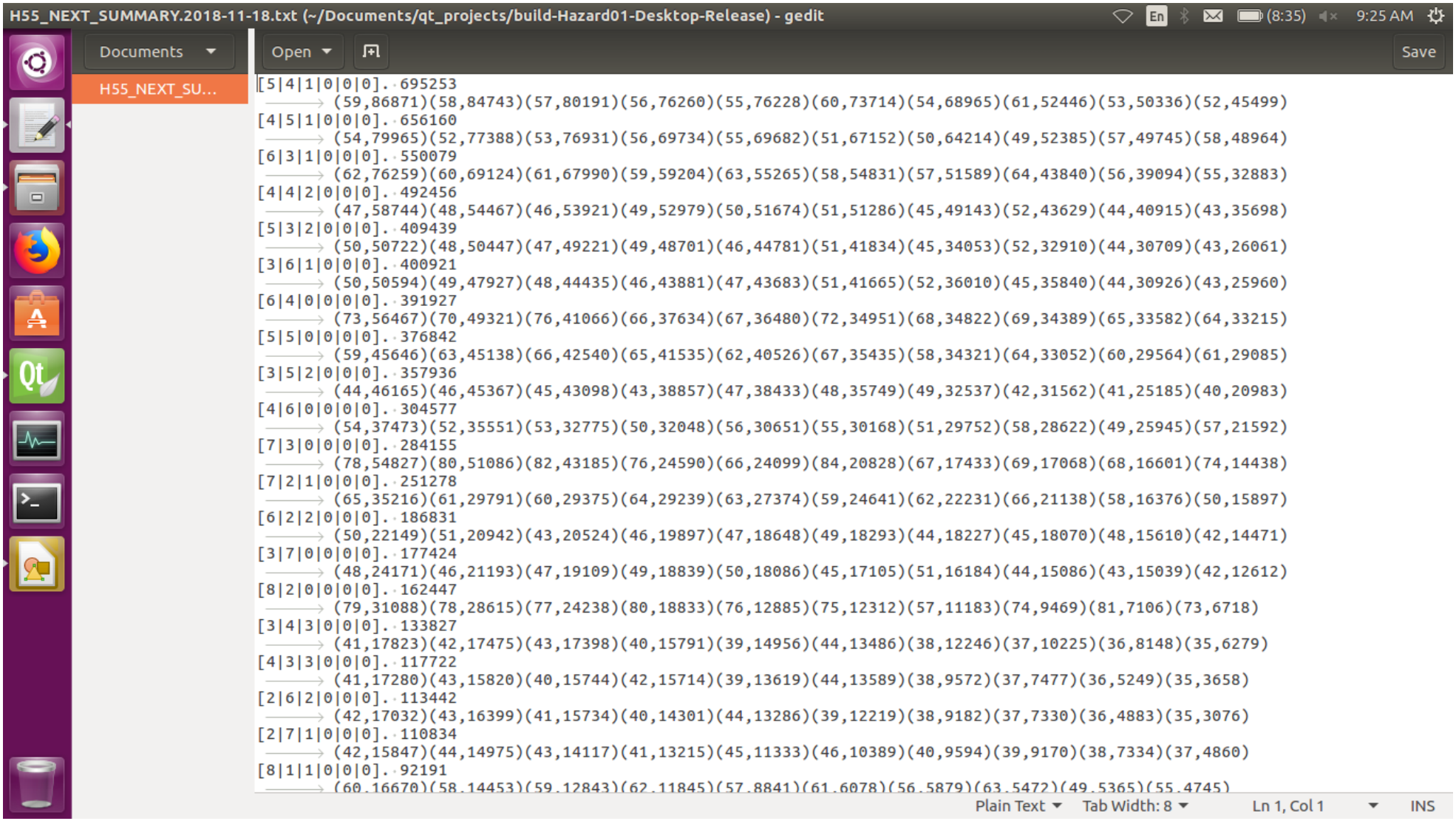
Score	Calculation	Exact Probability	Approximate Decimal Probability	Approximate 1/Probability
0	$\frac{\binom{6}{0}\binom{43}{6}}{\binom{49}{6}}$	435,461/998,844	0.436	2.2938
1	$\frac{\binom{6}{1}\binom{43}{5}}{\binom{49}{6}}$	68,757/166,474	0.413	2.4212
2	$\frac{\binom{6}{2}\binom{43}{4}}{\binom{49}{6}}$	44,075/332,948	0.132	7.5541
3	$\frac{\binom{6}{3}\binom{43}{3}}{\binom{49}{6}}$	8,815/499,422	0.0177	56.66
4	$\frac{\binom{6}{4}\binom{43}{2}}{\binom{49}{6}}$	645/665,896	0.000969	1,032.4
5	$\frac{\binom{6}{5}\binom{43}{1}}{\binom{49}{6}}$	43/2,330,636	0.0000184	54,200.8
6	$\frac{\binom{6}{6}\binom{43}{0}}{\binom{49}{6}}$	1/13,983,816	0.0000000715	13,983,816

	1,2,3,4,5,6
11,12,13,14,15,16	
21,22,23,24,25,26	
31,32,33,34,35,36	
41,42,43,44,45,46	
1,12,13,14,15,16	1
11,2,13,14,15,16	2
11,12,3,14,15,16	3
11,12,13,4,15,16	4
11,12,13,14,5,16	5
1,2,13,14,15,16	1,2

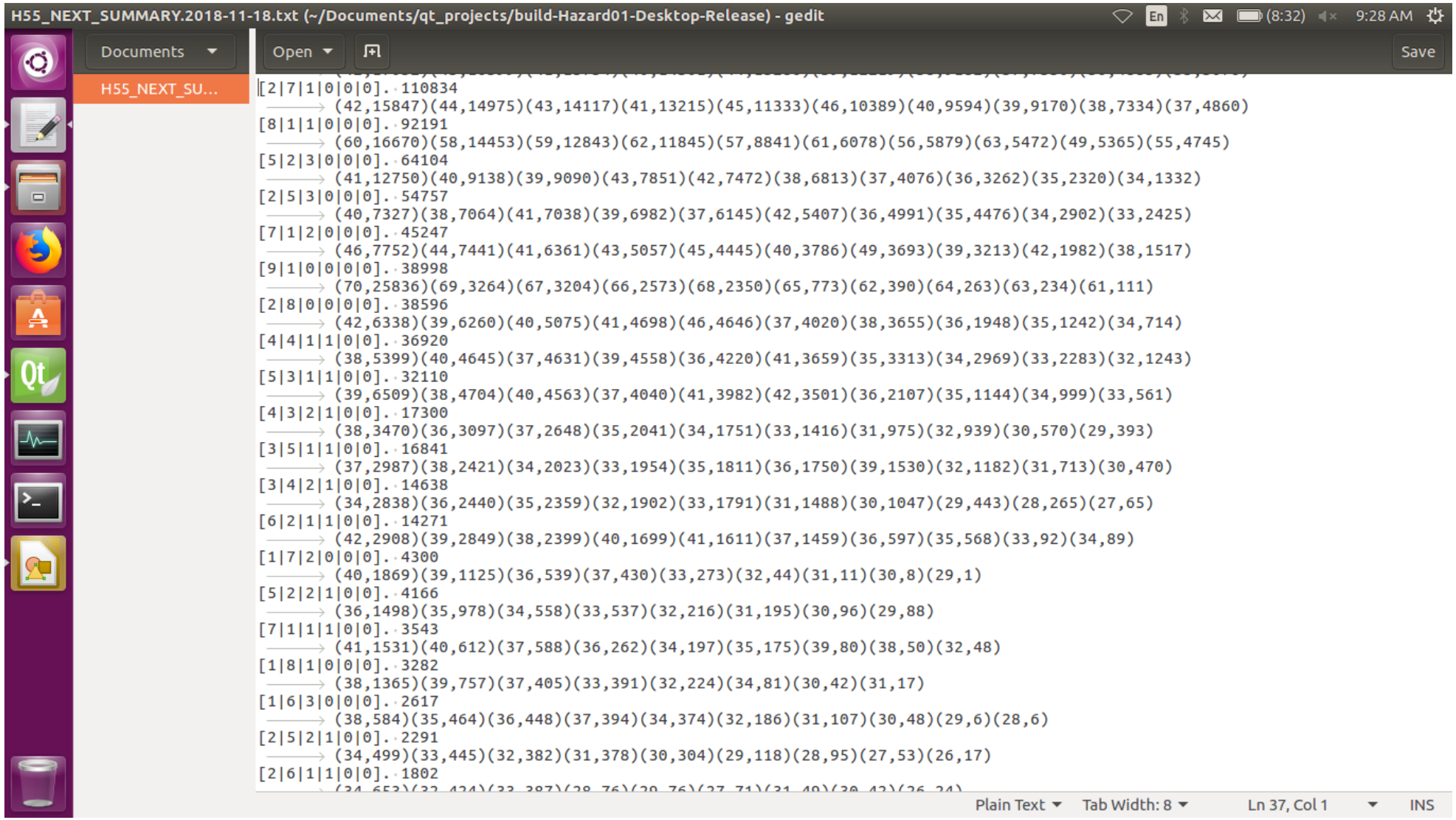
Histogram on lasts 10

[0,1,2,3,4,5]
[4,5,1,0,0,0]

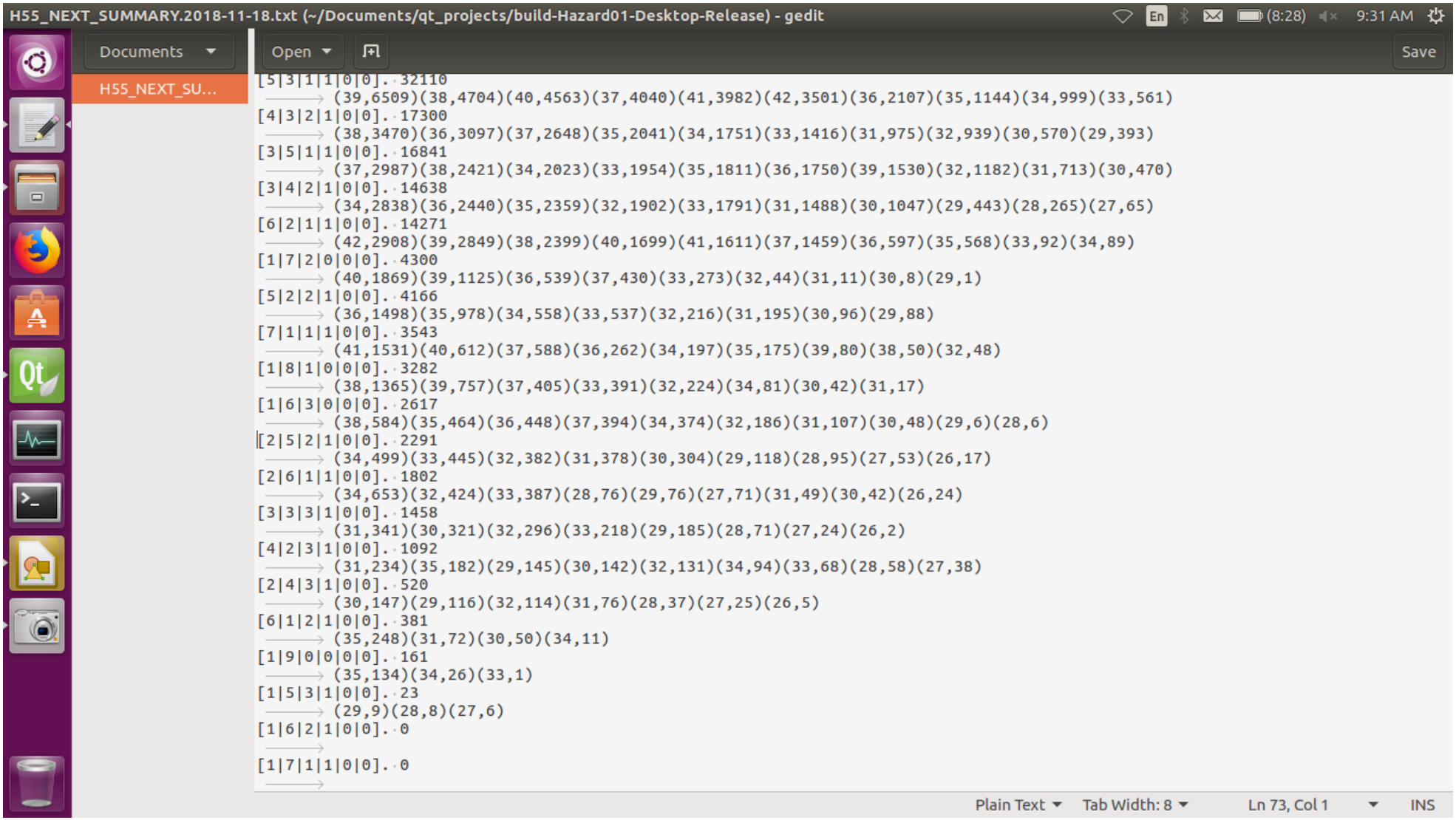
Rule 451, all options-1



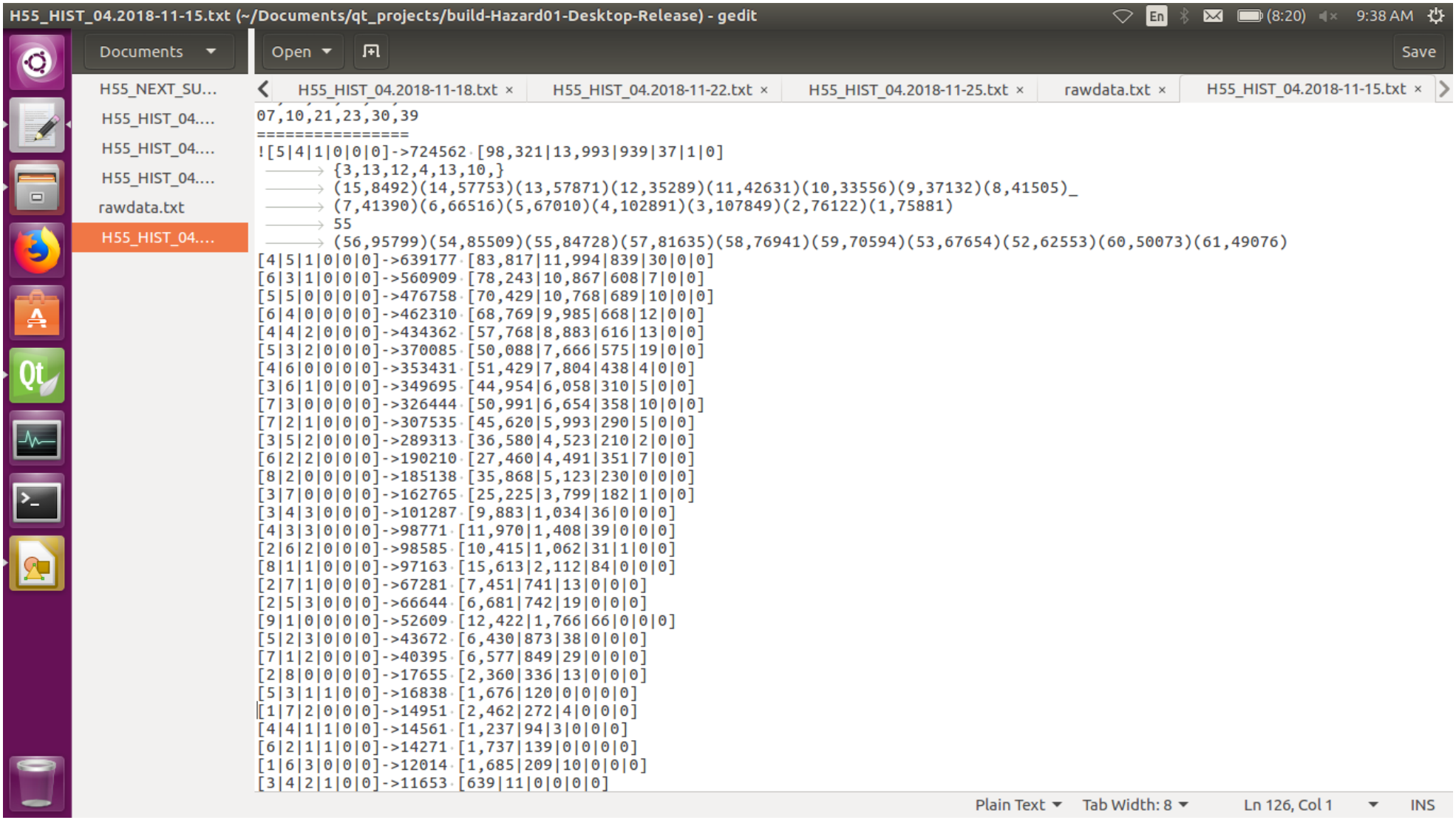
Rule 451, all options-2



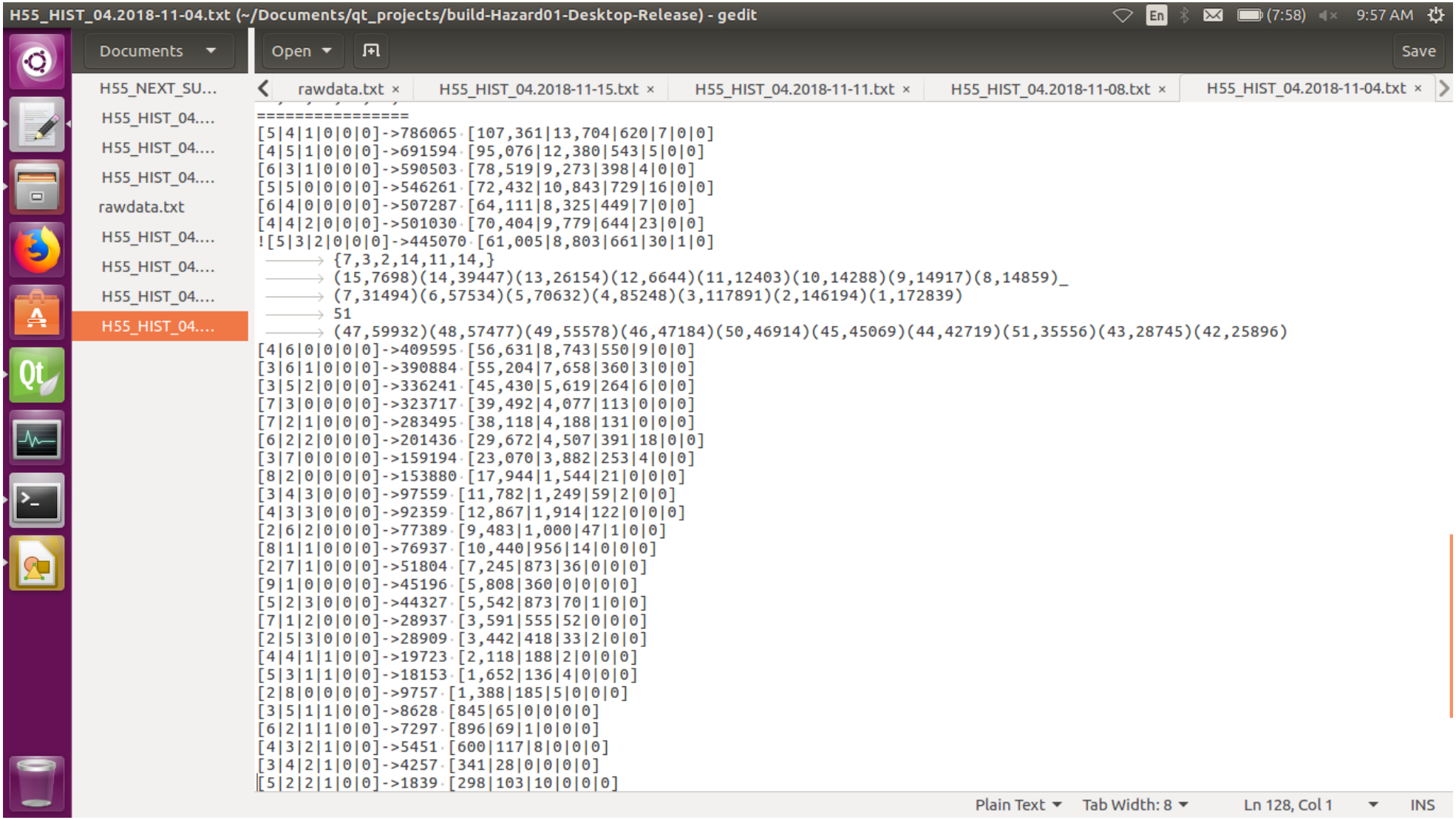
Rule 451, all options-3



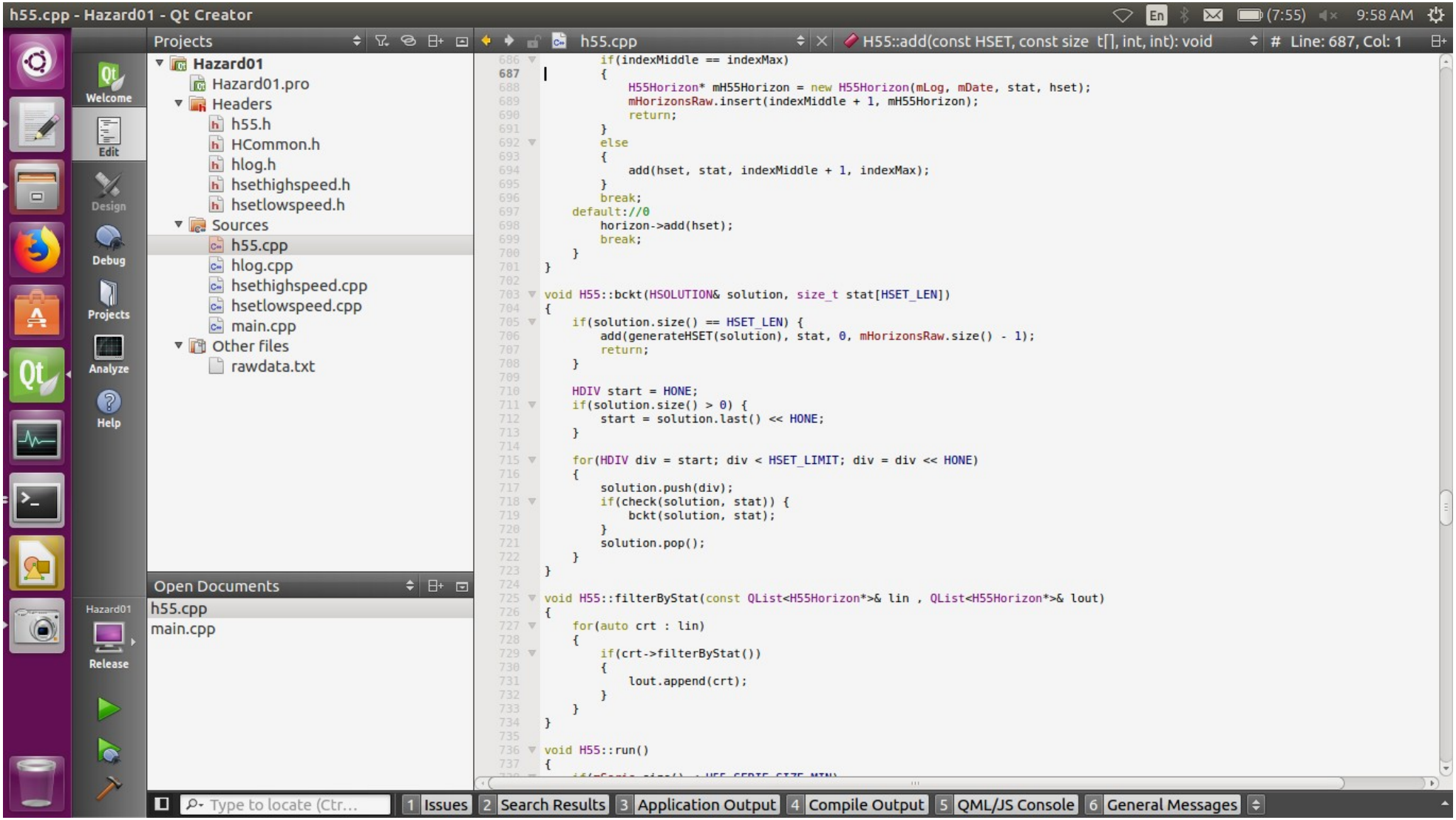
Rule 451, success



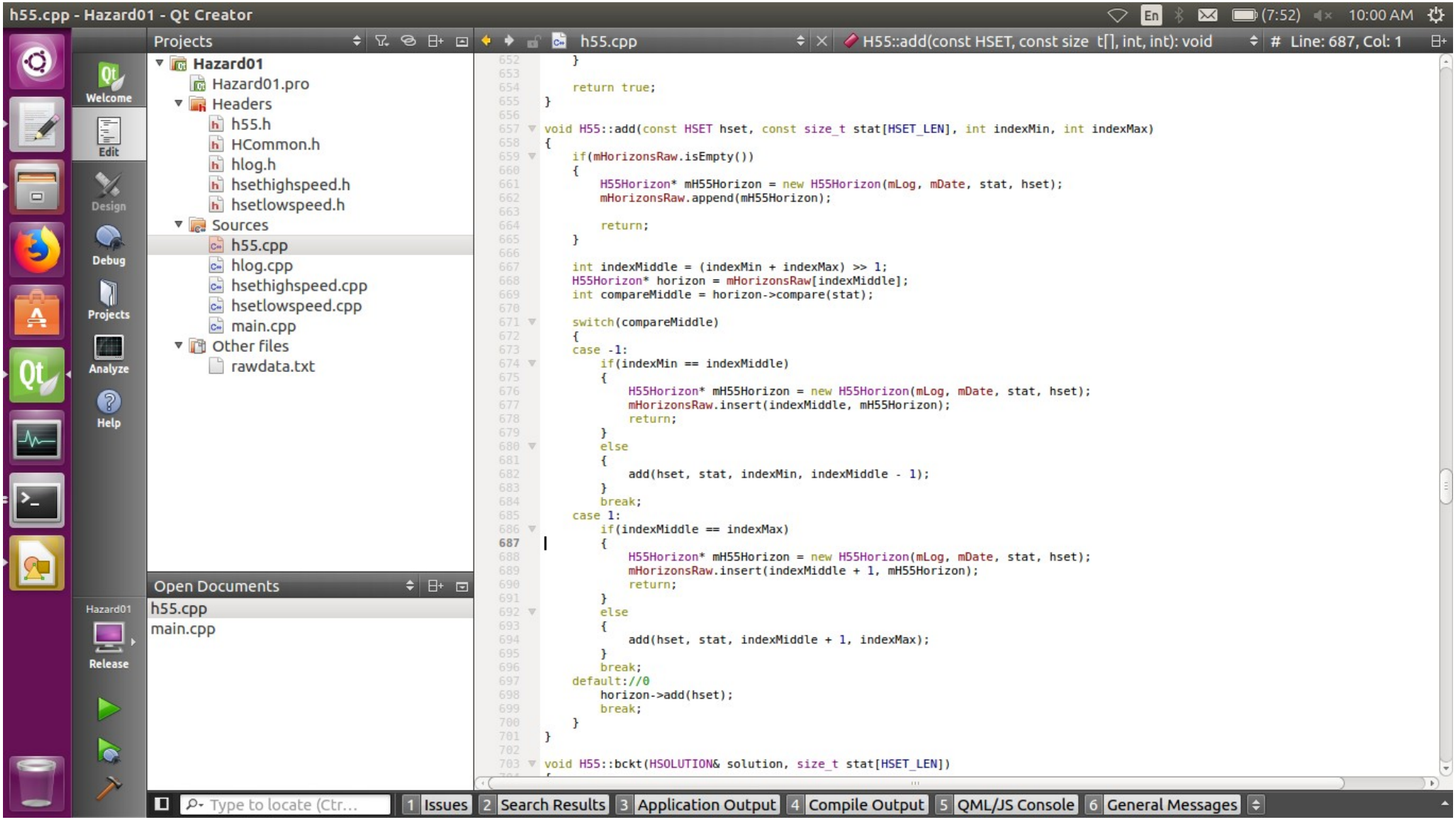
Rule 451, success



Rule 451, generate all combinations

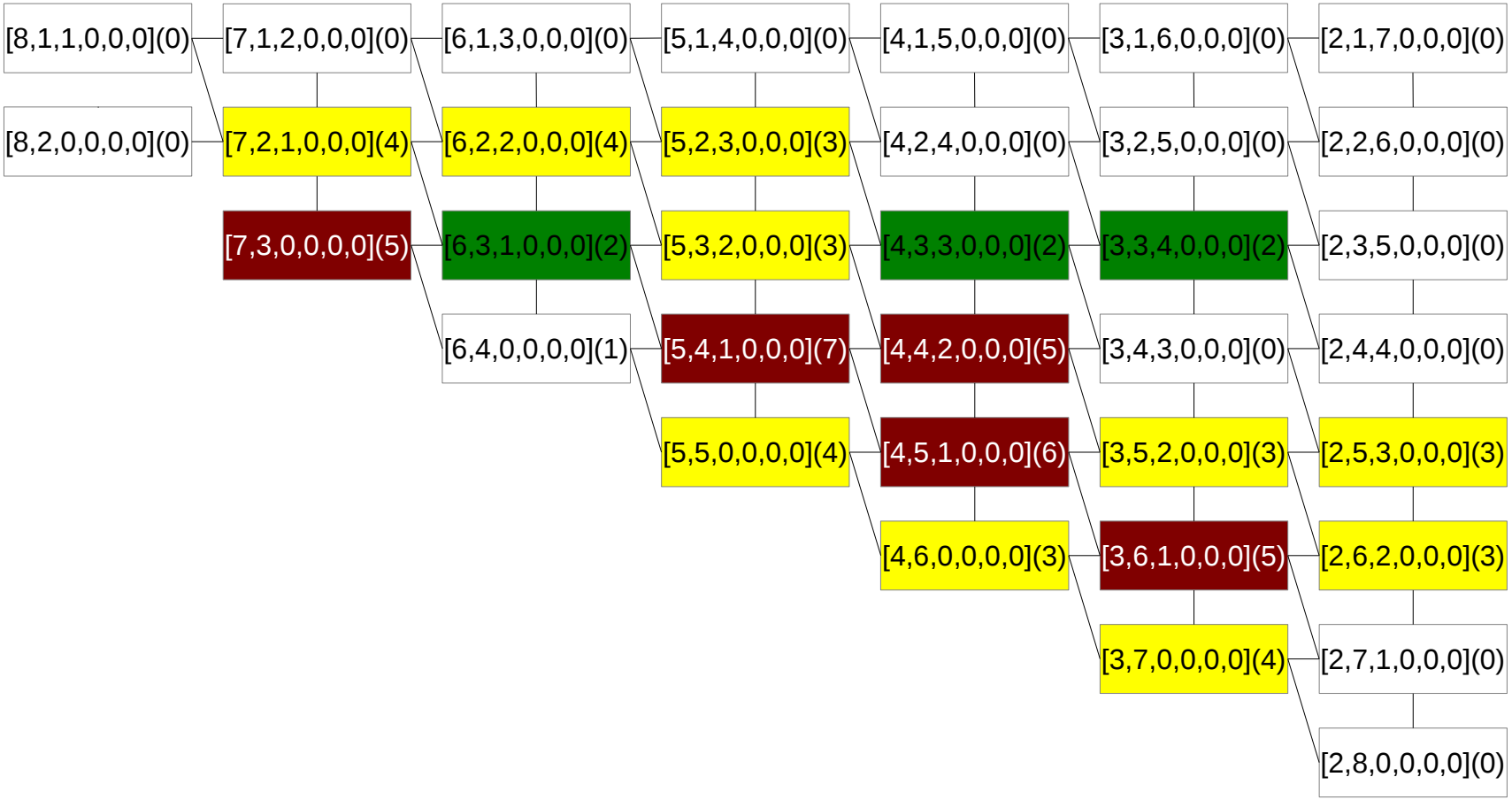


Rule 451, add to horizon

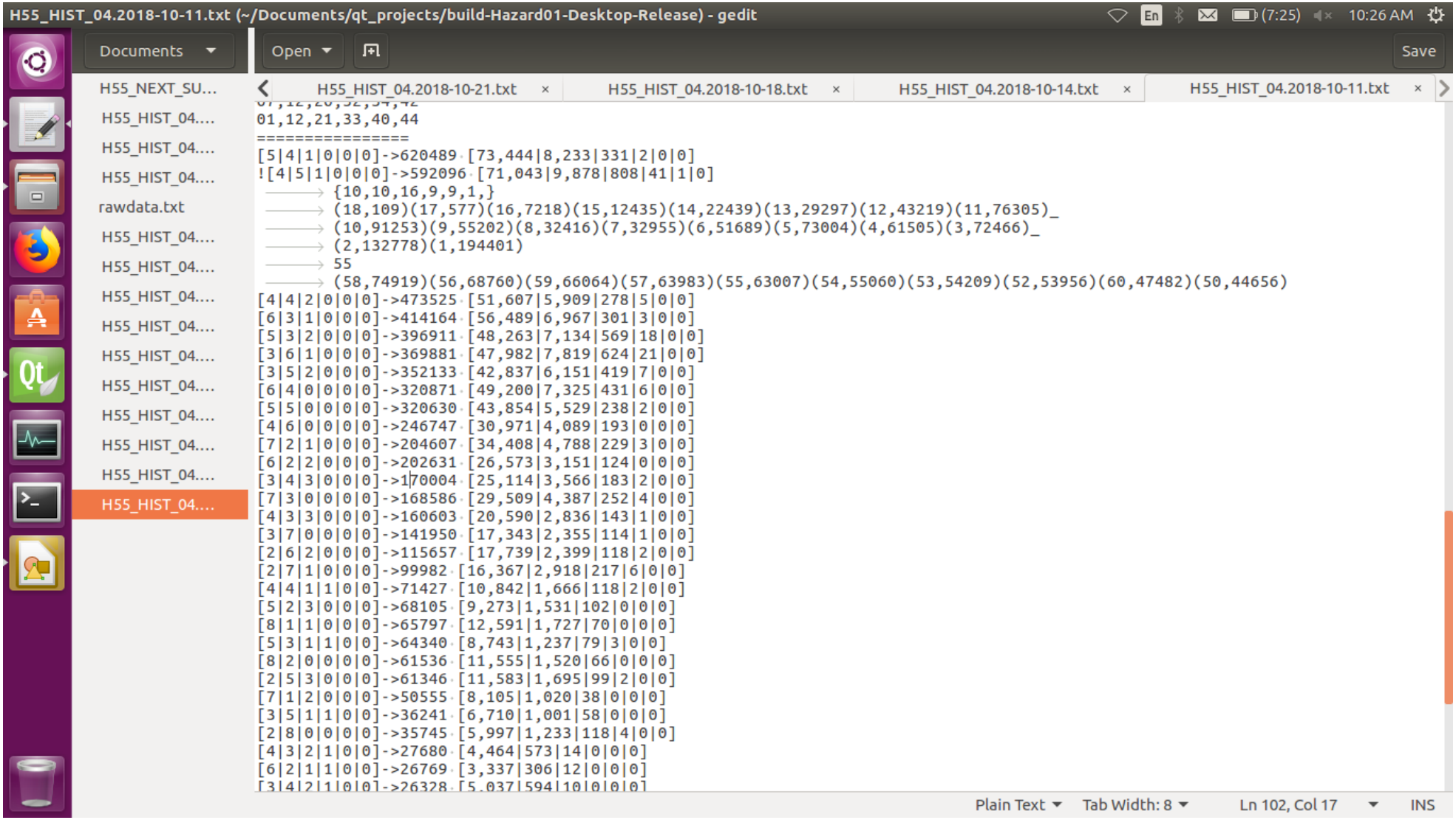



```
    }

    return true;
}

void H55::add(const HSET hset, const size_t stat[HSET_LEN], int indexMin, int indexMax)
{
    if(mHorizonsRaw.isEmpty())
    {
        H55Horizon* mH55Horizon = new H55Horizon(mLog, mDate, stat, hset);
        mHorizonsRaw.append(mH55Horizon);

        return;
    }

    int indexMiddle = (indexMin + indexMax) >> 1;
    H55Horizon* horizon = mHorizonsRaw[indexMiddle];
    int compareMiddle = horizon->compare(stat);

    switch(compareMiddle)
    {
    case -1:
        if(indexMin == indexMiddle)
        {
            H55Horizon* mH55Horizon = new H55Horizon(mLog, mDate, stat, hset);
            mHorizonsRaw.insert(indexMiddle, mH55Horizon);
            return;
        }
        else
        {
            add(hset, stat, indexMin, indexMiddle - 1);
        }
        break;
    case 1:
        if(indexMiddle == indexMax)
        {
            H55Horizon* mH55Horizon = new H55Horizon(mLog, mDate, stat, hset);
            mHorizonsRaw.insert(indexMiddle + 1, mH55Horizon);
            return;
        }
        else
        {
            add(hset, stat, indexMiddle + 1, indexMax);
        }
        break;
    default://0
        horizon->add(hset);
        break;
    }
}

void H55::bckt(HSOLUTION& solution, size_t stat[HSET_LEN])
```

Rule 451-distribution

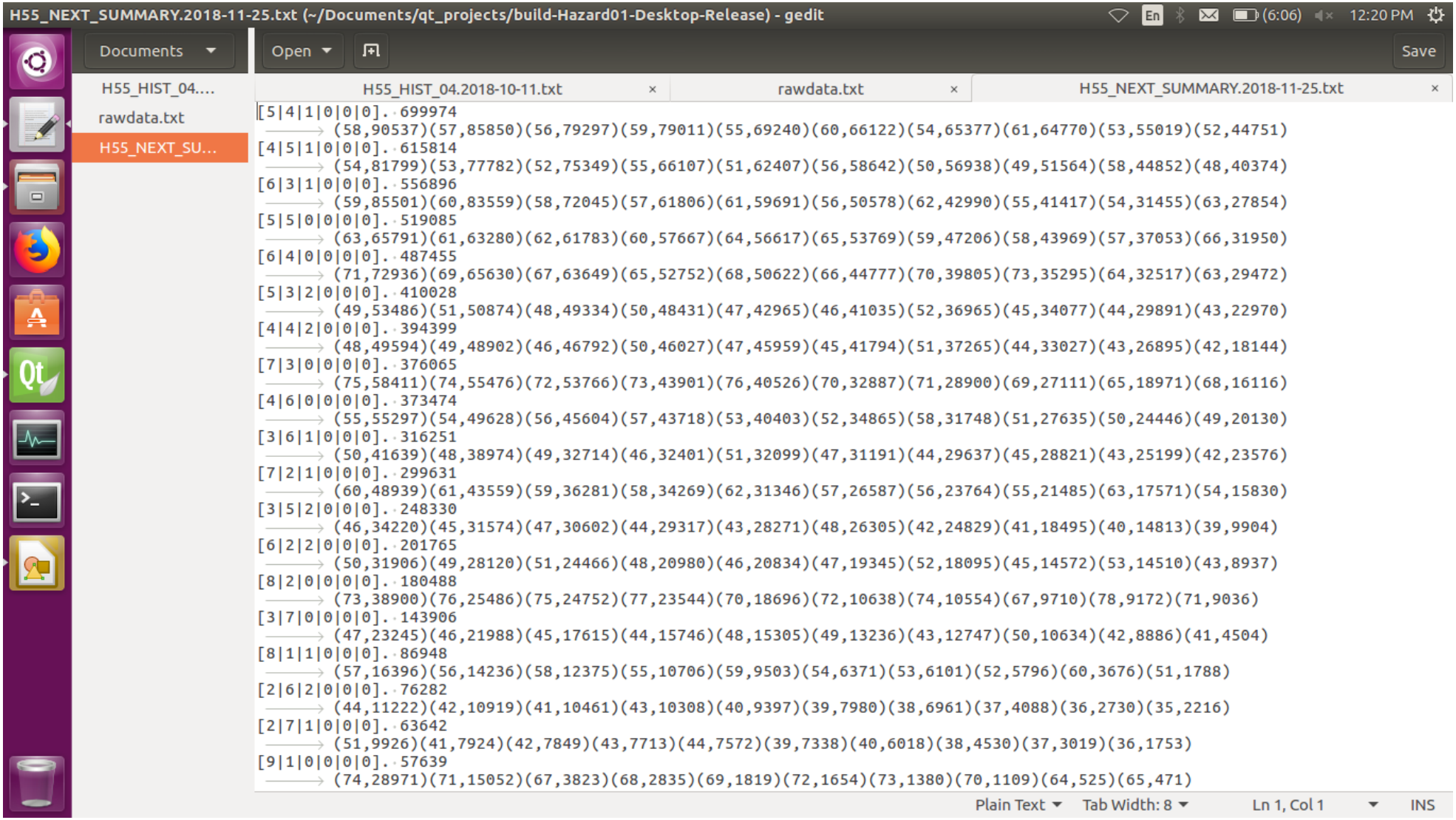


Rule 451 – The sets cannot combine infinitely. The combinations follow a normal distribution.



Neighbours
There are 254 sets having 5 the intersection length with the first one.

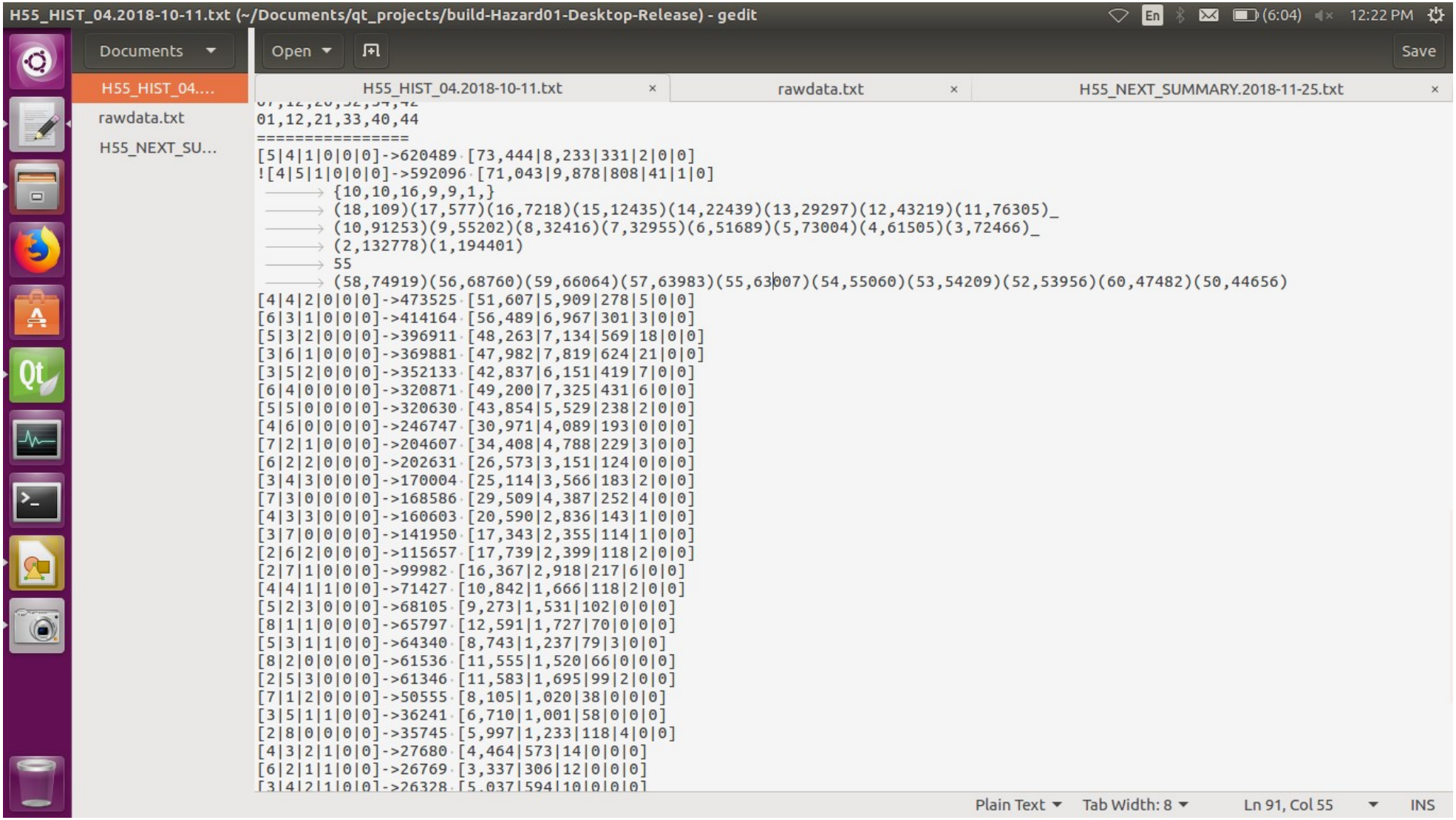
Neighbours, search the sets having a big number of neighbours



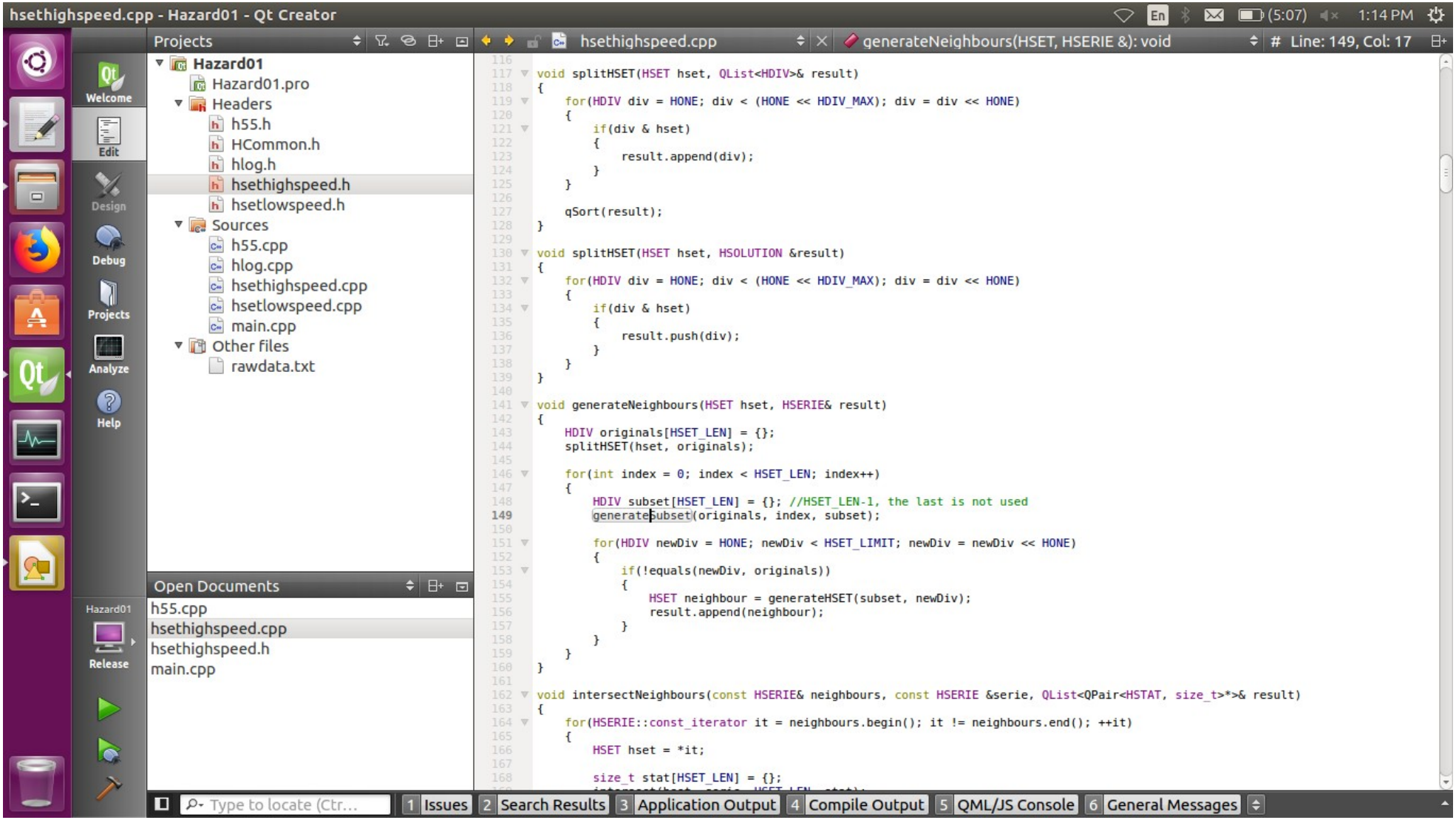
Intersecting 2 sets6 we can get maxim a set5, because the sets6 are distinct.
To intersect 1000000 set6 one with each other is prohibitive and does not work.
We need to decompose a set6 into 6 sets5.
[1,2,3,4,5,6]:

[,2,3,4,5,6]
[1, ,3,4,5,6]
[1,2, ,4,5,6]
[1,2,3, ,5,6]
[1,2,3,4, ,6]
[1,2,3,4,5,]

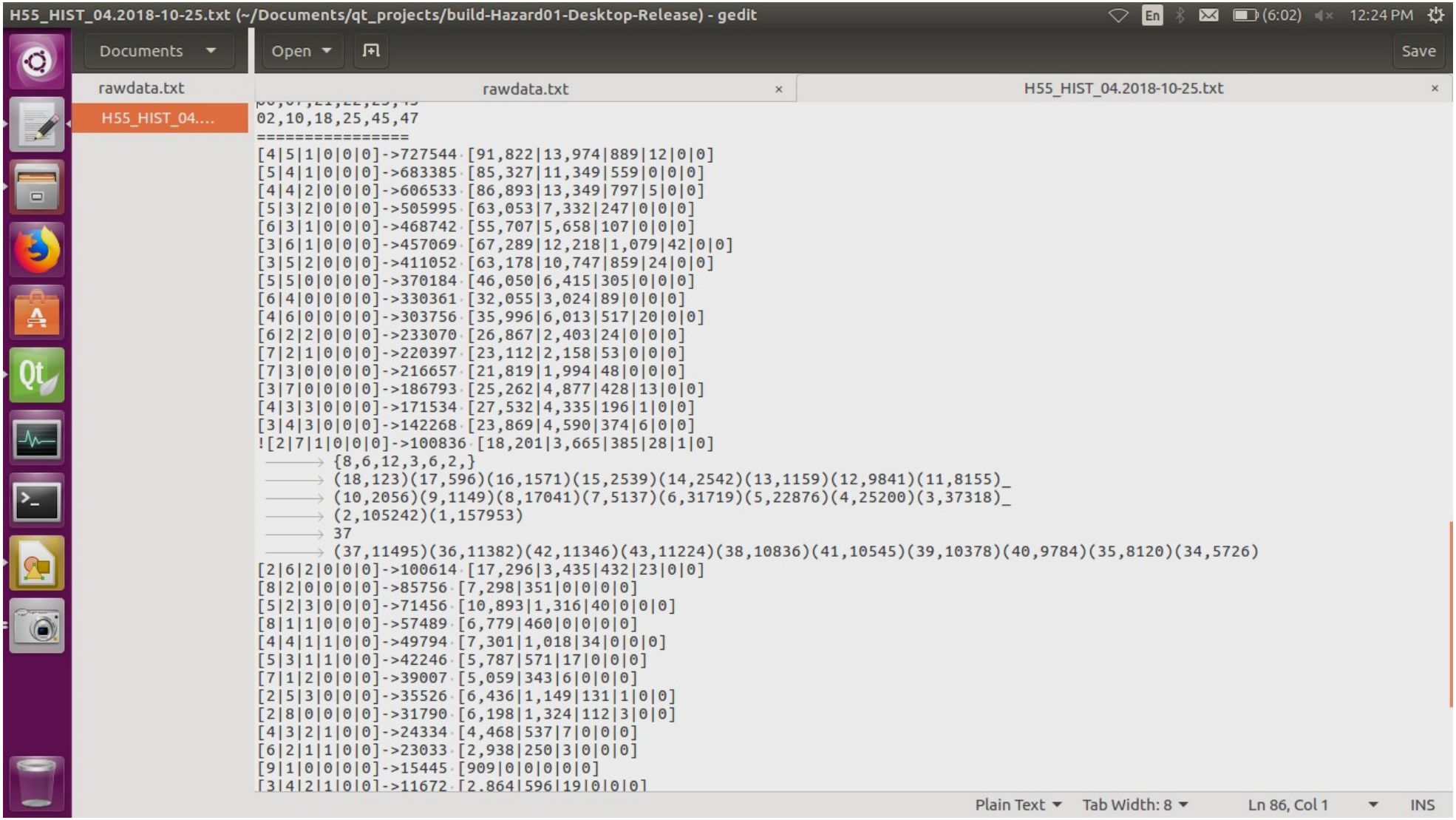
Neighbours, the winning set has a big number of neighbours



Neighbours, generate set5 from set6



Neighbours, winning set and has a big number of neighbours



How to play:

Source code: http://github.com/aflathorea/Hazard

Download Qt framework from www.qt.io

In the app dir should be the file: rawdata.txt. The file should have, at least, the lasts 10 sets.

Run Hazard app

H55_HIST_04.YYYY-MM-DD.txt contains the analysis for the last set, in the case there are 11 sets in rawdata.txt file.

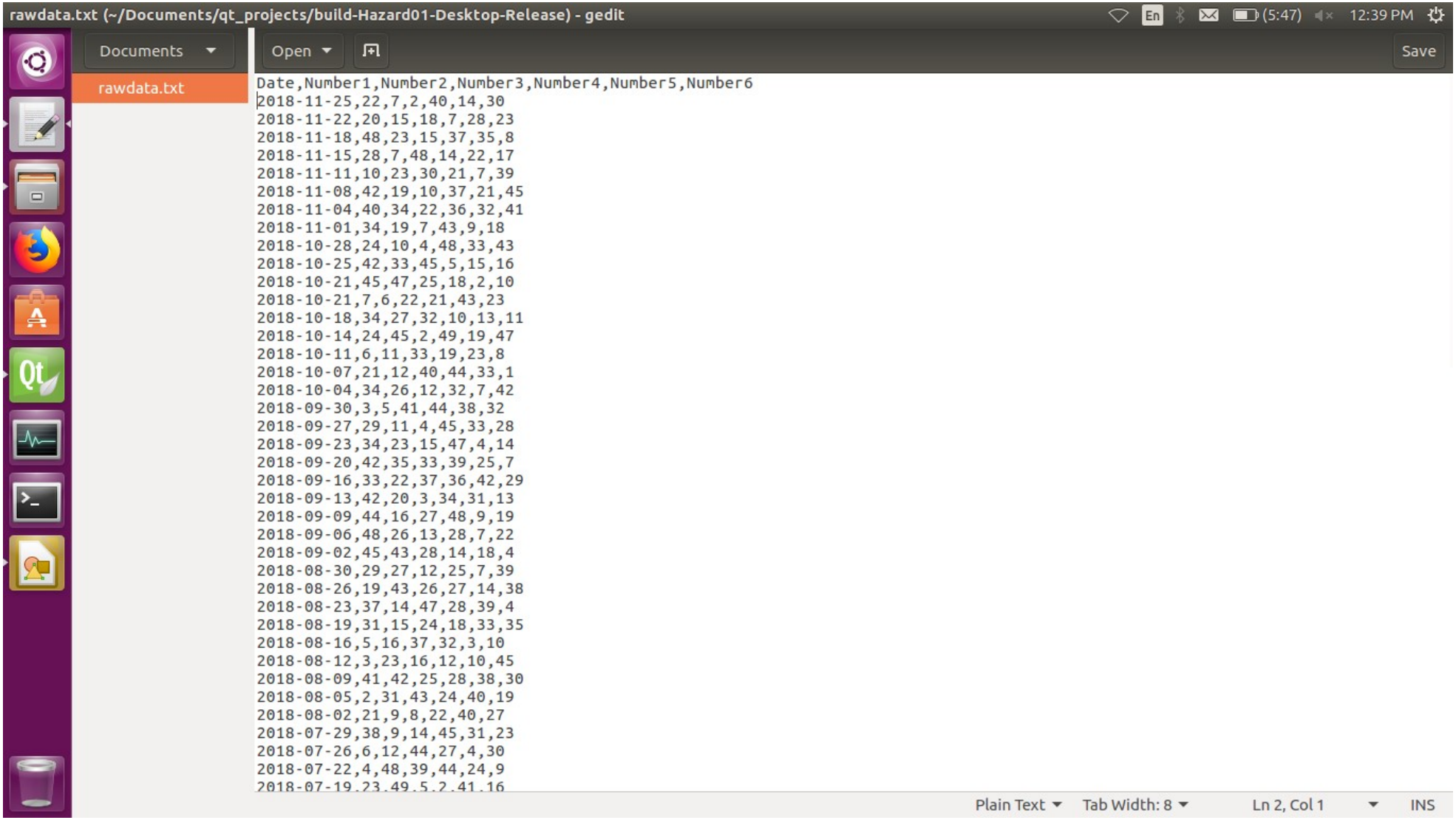
H55_NEXT_SUMMARY.YYYY-MM-DD.txt contains the summary forecast: the sets enumeration with the corresponding neighbours.

H55_NEXT.YYYY-MM-DD_4510.txt

H55_NEXT.YYYY-MM-DD_5410.txt

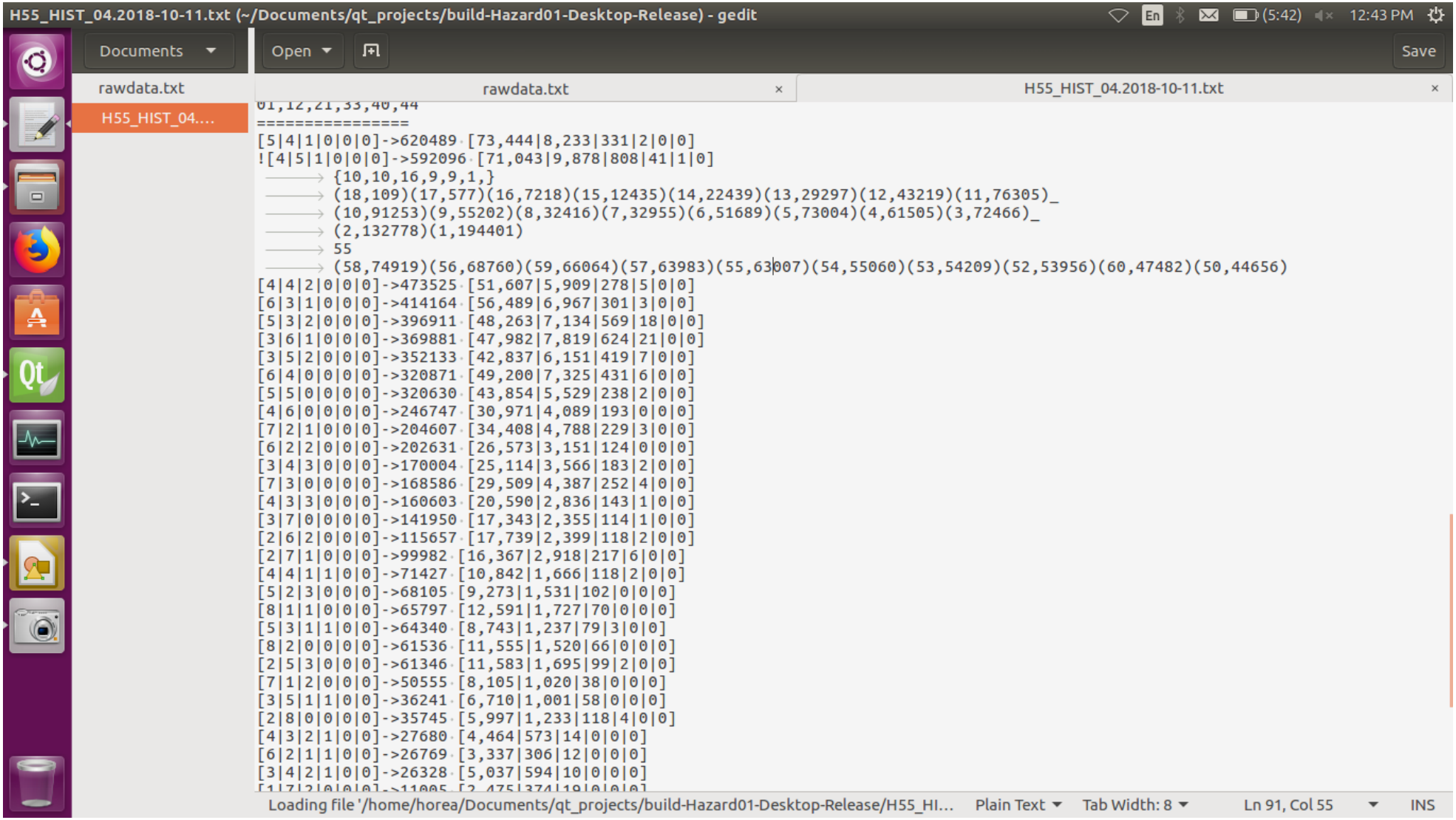
Contains the sets for each horizon.

rawdata.txt


rawdata.txt (~/Documents/qt_projects/build-Hazard01-Desktop-Release) - gedit
12:39 PM
Documents
Open
Save
rawdata.txt
Date,Number1,Number2,Number3,Number4,Number5,Number6
2018-11-25,22,7,2,40,14,30
2018-11-22,20,15,18,7,28,23
2018-11-18,48,23,15,37,35,8
2018-11-15,28,7,48,14,22,17
2018-11-11,10,23,30,21,7,39
2018-11-08,42,19,10,37,21,45
2018-11-04,40,34,22,36,32,41
2018-11-01,34,19,7,43,9,18
2018-10-28,24,10,4,48,33,43
2018-10-25,42,33,45,5,15,16
2018-10-21,45,47,25,18,2,10
2018-10-21,7,6,22,21,43,23
2018-10-18,34,27,32,10,13,11
2018-10-14,24,45,2,49,19,47
2018-10-11,6,11,33,19,23,8
2018-10-07,21,12,40,44,33,1
2018-10-04,34,26,12,32,7,42
2018-09-30,3,5,41,44,38,32
2018-09-27,29,11,4,45,33,28
2018-09-23,34,23,15,47,4,14
2018-09-20,42,35,33,39,25,7
2018-09-16,33,22,37,36,42,29
2018-09-13,42,20,3,34,31,13
2018-09-09,44,16,27,48,9,19
2018-09-06,48,26,13,28,7,22
2018-09-02,45,43,28,14,18,4
2018-08-30,29,27,12,25,7,39
2018-08-26,19,43,26,27,14,38
2018-08-23,37,14,47,28,39,4
2018-08-19,31,15,24,18,33,35
2018-08-16,5,16,37,32,3,10
2018-08-12,3,23,16,12,10,45
2018-08-09,41,42,25,28,38,30
2018-08-05,2,31,43,24,40,19
2018-08-02,21,9,8,22,40,27
2018-07-29,38,9,14,45,31,23
2018-07-26,6,12,44,27,4,30
2018-07-22,4,48,39,44,24,9
2018-07-19,23,49,5,2,41,16
Plain Text
Tab Width: 8
Ln 2, Col 1
INS

rawdata.txt
The first row is the header, does not count.
At least 10 sets.
If there are 11 sets, the app makes analysis for the las one.
The sets are ordered descending, the more recent is in top.
With “--” comment a set.

H55_HIST_04.YYYY-MM-DD.txt



H55_HIST_04.YYYY-MM-DD.txt

The first row:

+the horizon identification

+number of sets in horizon

+the success hit statistic for the intersection

length: [2 | 3 | 4 | 5 | 6 | -]

The second row:

+The success hit neighbours for set 5

The third row:

+The all neighbours for set 5

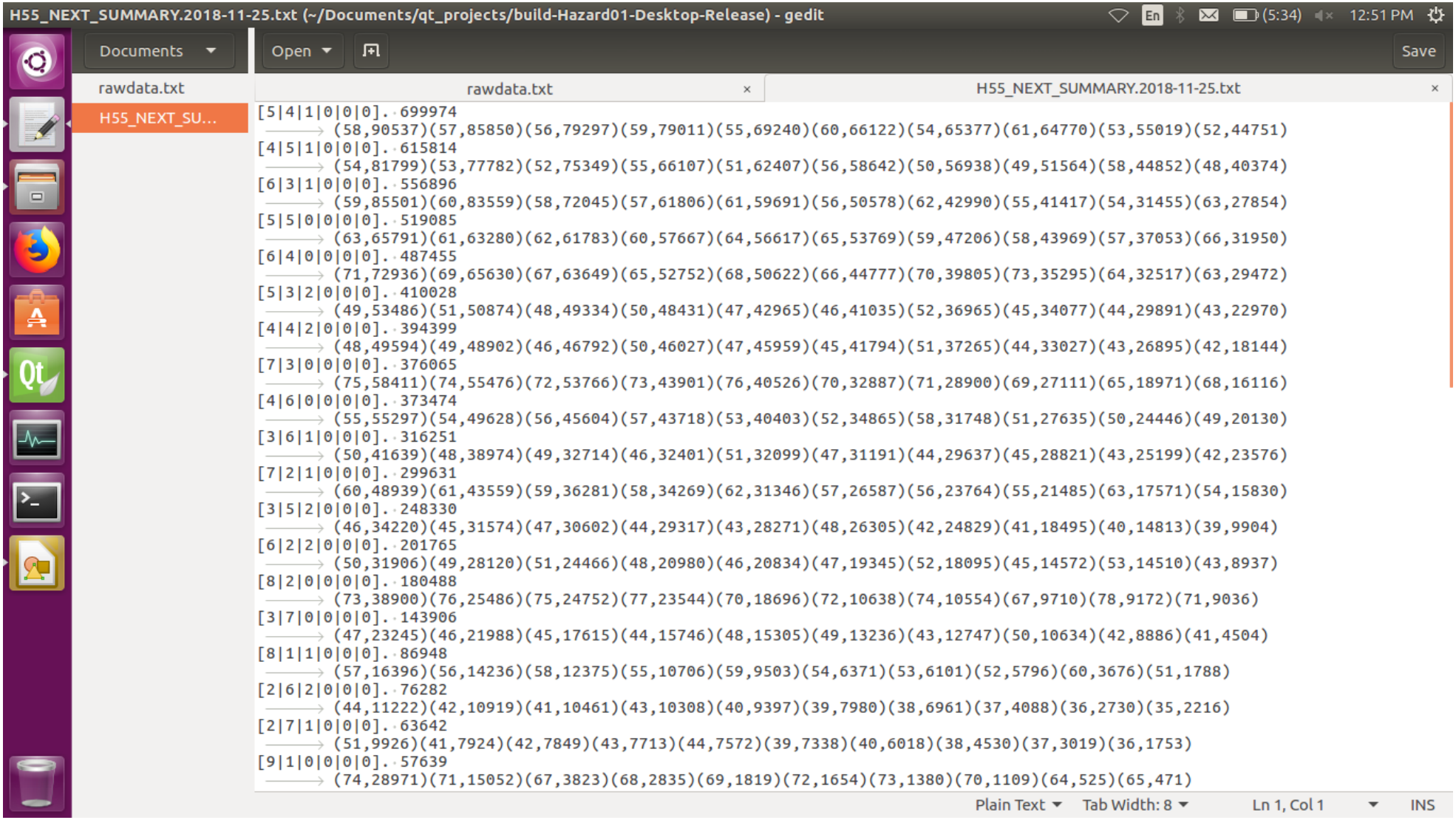
The fourth row:

+The success hit neighbours for set 6

The fifth row:

+The firsts 10 neighbours for set 6

H55_NEXT_SUMMARY.YYYY-MM-DD.txt



H55_NEXT_SUMMARY.YYYY-MM-DD.txt

- +It is an enumeration of all horizons

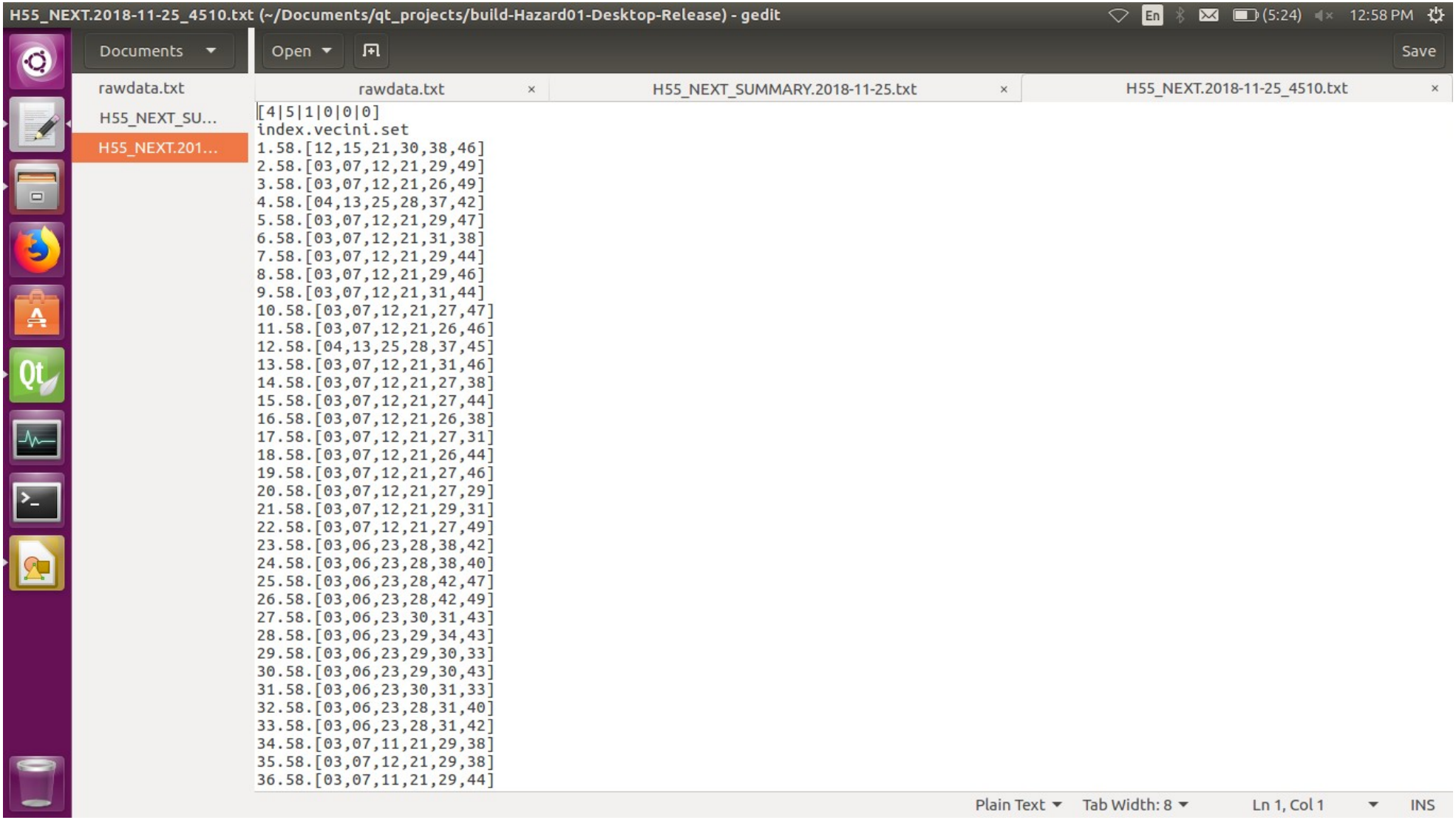
The first row:

- +horizon identification
- +the number of sets in horizon

The second row:

- +The neighbours intersection

H55_NEXT.YYYY-MM-DD_4510.txt



H55_NEXT.YYYY-MM-DD_4510.txt
Current Index.Neighbours.Set

How to play:

+Rawdata.txt is in the same dir with app and has at least 10-11 sets.

+Run app

+Check the summary file (H55_NEXT_SUMMARY...) and pick-up an horizon. Usually an horizon from top like 451. For the chose horizon select a neighbour.

+Check the detailed file H55_NEXT_..._4510.txt for the selected horizon

+Pick-up some sets corresponding to the neighbour.

+running the app with a parameter: Hazard a, makes the analysis for all the sets from rawdata.txt file. Can take a long time.