Q.1.BarAttender

**package** cs501\_hw;

**import** java.util.Random;

**public** **class** BarAttender {

**private** **int** min; //Work in the range of min to max

**private** **int** max;

BarAttender(**int** min, **int** max) {

**this**.min = min;

**this**.max = max;

}

**private** **int** guess(**int** g, **boolean** show) {

**int** numberOfGuesses = 1;

**int** l = min;

**int** r = max;

**if**(show = **true**){

System.***out***.print("l:"+l+"\t");

System.***out***.print("r:"+r+"\t");

**while**(r >= l){

**int** m = l + ((r - l) / 2);

**if**(m > g){

r = m - 1;

System.***out***.print("l="+l+"\t");

System.***out***.print("r="+r+"\t");

numberOfGuesses++;

System.***out***.println("Step: " + numberOfGuesses + " Your random guess between Left: " + l + " Right: " + r + " Middle : " + m);

}**else** **if**(m < g){

l = m + 1;

System.***out***.print("l="+l+"\t");

System.***out***.print("r="+r+"\t");

numberOfGuesses++;

}**else**{

**if**(m == g)

**return** numberOfGuesses++;

}

}

}

**else**

{

**while**(max >= min){

**int** m = min + ((max - min) / 2);

**if**(m > g){

max = m - 1;

//System.out.println("Max>>"+max);

numberOfGuesses++;

}**else** **if**(m < g){

min = m + 1;

//System.out.println("min>"+min);

numberOfGuesses++;

}**else**{

**if**(m == g)

**return** numberOfGuesses++;

}

}

}

**return** numberOfGuesses;

}

// Cannot change code below

**private** **static** **void** test(**int** s, **int** b, **int** m, **boolean** useRandom, **boolean** show) {

Random r = **new** Random();

**int** min = 9999;

**int** max = 0;

BarAttender h = **new** BarAttender(s, b);

**for** (**int** i = 0; i < m; ++i) {

**int** v = i + s;

**if** (useRandom) {

v = RandomInt.*getRandomInt*(r, s, b); //This gives number between 1 to 1000000-1

}

**int** n = h.guess(v, show);

**if** (n > max) {

max = n;

}

**if** (n < min) {

min = n;

}

}

System.***out***.print("For numbers between " + s + " to " + b + " ");

**if** (useRandom) {

System.***out***.print("(random numbers)");

} **else** {

System.***out***.print("(not random numbers)");

}

System.***out***.println(" the min guess is " + min + " max guess is " + max);

}

// Cannot change code below

**private** **static** **void** testBench() {

*test*(1, 10, 10, **false**, **true**);

*test*(1, 1000000, 1000, **false**, **false**);

*test*(1, 1000000, 1000, **true**, **false**);

}

// Cannot change code below

**public** **static** **void** main(String[] args) {

System.***out***.println("BarAttender.java");

*testBench*();

System.***out***.println("DONE");

}

}

Output:

l=278564 r=278806 l=278564 r=278684 Step: 14 Your random guess between Left: 278564 Right: 278684 Middle : 278685

l=278564 r=278623 Step: 15 Your random guess between Left: 278564 Right: 278623 Middle : 278624

l=278564 r=278592 Step: 16 Your random guess between Left: 278564 Right: 278592 Middle : 278593

l=278564 r=278577 Step: 17 Your random guess between Left: 278564 Right: 278577 Middle : 278578

l=278571 r=278577 l=278571 r=278573 Step: 19 Your random guess between Left: 278571 Right: 278573 Middle : 278574

l=278571 r=278571 Step: 20 Your random guess between Left: 278571 Right: 278571 Middle : 278572

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=1 r=31249 Step: 6 Your random guess between Left: 1 Right: 31249 Middle : 31250

l=1 r=15624 Step: 7 Your random guess between Left: 1 Right: 15624 Middle : 15625

l=7813 r=15624 l=7813 r=11717 Step: 9 Your random guess between Left: 7813 Right: 11717 Middle : 11718

l=7813 r=9764 Step: 10 Your random guess between Left: 7813 Right: 9764 Middle : 9765

l=7813 r=8787 Step: 11 Your random guess between Left: 7813 Right: 8787 Middle : 8788

l=8301 r=8787 l=8545 r=8787 l=8667 r=8787 l=8728 r=8787 l=8728 r=8756 Step: 16 Your random guess between Left: 8728 Right: 8756 Middle : 8757

l=8743 r=8756 l=8750 r=8756 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=750001 r=812499 Step: 5 Your random guess between Left: 750001 Right: 812499 Middle : 812500

l=781251 r=812499 l=796876 r=812499 l=796876 r=804686 Step: 8 Your random guess between Left: 796876 Right: 804686 Middle : 804687

l=796876 r=800780 Step: 9 Your random guess between Left: 796876 Right: 800780 Middle : 800781

l=796876 r=798827 Step: 10 Your random guess between Left: 796876 Right: 798827 Middle : 798828

l=796876 r=797850 Step: 11 Your random guess between Left: 796876 Right: 797850 Middle : 797851

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=281251 r=312499 l=296876 r=312499 l=296876 r=304686 Step: 8 Your random guess between Left: 296876 Right: 304686 Middle : 304687

l=300782 r=304686 l=300782 r=302733 Step: 10 Your random guess between Left: 300782 Right: 302733 Middle : 302734

l=301758 r=302733 l=302246 r=302733 l=302490 r=302733 l=302612 r=302733 l=302612 r=302671 Step: 15 Your random guess between Left: 302612 Right: 302671 Middle : 302672

l=302612 r=302640 Step: 16 Your random guess between Left: 302612 Right: 302640 Middle : 302641

l=302612 r=302625 Step: 17 Your random guess between Left: 302612 Right: 302625 Middle : 302626

l=302619 r=302625 l=302623 r=302625 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=312501 r=374999 l=343751 r=374999 l=343751 r=359374 Step: 7 Your random guess between Left: 343751 Right: 359374 Middle : 359375

l=343751 r=351561 Step: 8 Your random guess between Left: 343751 Right: 351561 Middle : 351562

l=347657 r=351561 l=347657 r=349608 Step: 10 Your random guess between Left: 347657 Right: 349608 Middle : 349609

l=348633 r=349608 l=349121 r=349608 l=349365 r=349608 l=349487 r=349608 l=349487 r=349546 Step: 15 Your random guess between Left: 349487 Right: 349546 Middle : 349547

l=349487 r=349515 Step: 16 Your random guess between Left: 349487 Right: 349515 Middle : 349516

l=349487 r=349500 Step: 17 Your random guess between Left: 349487 Right: 349500 Middle : 349501

l=349494 r=349500 l=349498 r=349500 l=349500 r=349500 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=875001 r=1000000 l=875001 r=937499 Step: 5 Your random guess between Left: 875001 Right: 937499 Middle : 937500

l=906251 r=937499 l=906251 r=921874 Step: 7 Your random guess between Left: 906251 Right: 921874 Middle : 921875

l=914063 r=921874 l=917969 r=921874 l=919922 r=921874 l=919922 r=920897 Step: 11 Your random guess between Left: 919922 Right: 920897 Middle : 920898

l=919922 r=920408 Step: 12 Your random guess between Left: 919922 Right: 920408 Middle : 920409

l=919922 r=920164 Step: 13 Your random guess between Left: 919922 Right: 920164 Middle : 920165

l=920044 r=920164 l=920105 r=920164 l=920105 r=920133 Step: 16 Your random guess between Left: 920105 Right: 920133 Middle : 920134

l=920120 r=920133 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=875001 r=1000000 l=875001 r=937499 Step: 5 Your random guess between Left: 875001 Right: 937499 Middle : 937500

l=875001 r=906249 Step: 6 Your random guess between Left: 875001 Right: 906249 Middle : 906250

l=875001 r=890624 Step: 7 Your random guess between Left: 875001 Right: 890624 Middle : 890625

l=875001 r=882811 Step: 8 Your random guess between Left: 875001 Right: 882811 Middle : 882812

l=878907 r=882811 l=878907 r=880858 Step: 10 Your random guess between Left: 878907 Right: 880858 Middle : 880859

l=878907 r=879881 Step: 11 Your random guess between Left: 878907 Right: 879881 Middle : 879882

l=879395 r=879881 l=879639 r=879881 l=879639 r=879759 Step: 14 Your random guess between Left: 879639 Right: 879759 Middle : 879760

l=879639 r=879698 Step: 15 Your random guess between Left: 879639 Right: 879698 Middle : 879699

l=879639 r=879667 Step: 16 Your random guess between Left: 879639 Right: 879667 Middle : 879668

l=879654 r=879667 l=879661 r=879667 l=879661 r=879663 Step: 19 Your random guess between Left: 879661 Right: 879663 Middle : 879664

l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=562501 r=624999 l=562501 r=593749 Step: 6 Your random guess between Left: 562501 Right: 593749 Middle : 593750

l=578126 r=593749 l=578126 r=585936 Step: 8 Your random guess between Left: 578126 Right: 585936 Middle : 585937

l=578126 r=582030 Step: 9 Your random guess between Left: 578126 Right: 582030 Middle : 582031

l=578126 r=580077 Step: 10 Your random guess between Left: 578126 Right: 580077 Middle : 580078

l=579102 r=580077 l=579590 r=580077 l=579590 r=579832 Step: 13 Your random guess between Left: 579590 Right: 579832 Middle : 579833

l=579590 r=579710 Step: 14 Your random guess between Left: 579590 Right: 579710 Middle : 579711

l=579590 r=579649 Step: 15 Your random guess between Left: 579590 Right: 579649 Middle : 579650

l=579620 r=579649 l=579620 r=579633 Step: 17 Your random guess between Left: 579620 Right: 579633 Middle : 579634

l=579620 r=579625 Step: 18 Your random guess between Left: 579620 Right: 579625 Middle : 579626

l=579623 r=579625 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=812501 r=874999 l=812501 r=843749 Step: 6 Your random guess between Left: 812501 Right: 843749 Middle : 843750

l=828126 r=843749 l=835938 r=843749 l=839844 r=843749 l=839844 r=841795 Step: 10 Your random guess between Left: 839844 Right: 841795 Middle : 841796

l=839844 r=840818 Step: 11 Your random guess between Left: 839844 Right: 840818 Middle : 840819

l=840332 r=840818 l=840576 r=840818 l=840698 r=840818 l=840698 r=840757 Step: 15 Your random guess between Left: 840698 Right: 840757 Middle : 840758

l=840728 r=840757 l=840743 r=840757 l=840751 r=840757 l=840751 r=840753 Step: 19 Your random guess between Left: 840751 Right: 840753 Middle : 840754

l=840753 r=840753 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=31251 r=62499 l=46876 r=62499 l=54688 r=62499 l=54688 r=58592 Step: 9 Your random guess between Left: 54688 Right: 58592 Middle : 58593

l=56641 r=58592 l=56641 r=57615 Step: 11 Your random guess between Left: 56641 Right: 57615 Middle : 57616

l=57129 r=57615 l=57129 r=57371 Step: 13 Your random guess between Left: 57129 Right: 57371 Middle : 57372

l=57129 r=57249 Step: 14 Your random guess between Left: 57129 Right: 57249 Middle : 57250

l=57129 r=57188 Step: 15 Your random guess between Left: 57129 Right: 57188 Middle : 57189

l=57159 r=57188 l=57174 r=57188 l=57174 r=57180 Step: 18 Your random guess between Left: 57174 Right: 57180 Middle : 57181

l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=812501 r=874999 l=843751 r=874999 l=843751 r=859374 Step: 7 Your random guess between Left: 843751 Right: 859374 Middle : 859375

l=851563 r=859374 l=855469 r=859374 l=855469 r=857420 Step: 10 Your random guess between Left: 855469 Right: 857420 Middle : 857421

l=855469 r=856443 Step: 11 Your random guess between Left: 855469 Right: 856443 Middle : 856444

l=855469 r=855955 Step: 12 Your random guess between Left: 855469 Right: 855955 Middle : 855956

l=855713 r=855955 l=855713 r=855833 Step: 14 Your random guess between Left: 855713 Right: 855833 Middle : 855834

l=855713 r=855772 Step: 15 Your random guess between Left: 855713 Right: 855772 Middle : 855773

l=855743 r=855772 l=855743 r=855756 Step: 17 Your random guess between Left: 855743 Right: 855756 Middle : 855757

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=375001 r=499999 l=375001 r=437499 Step: 5 Your random guess between Left: 375001 Right: 437499 Middle : 437500

l=375001 r=406249 Step: 6 Your random guess between Left: 375001 Right: 406249 Middle : 406250

l=390626 r=406249 l=390626 r=398436 Step: 8 Your random guess between Left: 390626 Right: 398436 Middle : 398437

l=394532 r=398436 l=396485 r=398436 l=397461 r=398436 l=397949 r=398436 l=398193 r=398436 l=398193 r=398313 Step: 14 Your random guess between Left: 398193 Right: 398313 Middle : 398314

l=398254 r=398313 l=398284 r=398313 l=398284 r=398297 Step: 17 Your random guess between Left: 398284 Right: 398297 Middle : 398298

l=398291 r=398297 l=398291 r=398293 Step: 19 Your random guess between Left: 398291 Right: 398293 Middle : 398294

l=398293 r=398293 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=500001 r=562499 Step: 5 Your random guess between Left: 500001 Right: 562499 Middle : 562500

l=531251 r=562499 l=546876 r=562499 l=554688 r=562499 l=558594 r=562499 l=560547 r=562499 l=561524 r=562499 l=561524 r=562010 Step: 12 Your random guess between Left: 561524 Right: 562010 Middle : 562011

l=561524 r=561766 Step: 13 Your random guess between Left: 561524 Right: 561766 Middle : 561767

l=561524 r=561644 Step: 14 Your random guess between Left: 561524 Right: 561644 Middle : 561645

l=561585 r=561644 l=561585 r=561613 Step: 16 Your random guess between Left: 561585 Right: 561613 Middle : 561614

l=561585 r=561598 Step: 17 Your random guess between Left: 561585 Right: 561598 Middle : 561599

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=62501 r=124999 l=93751 r=124999 l=109376 r=124999 l=109376 r=117186 Step: 8 Your random guess between Left: 109376 Right: 117186 Middle : 117187

l=109376 r=113280 Step: 9 Your random guess between Left: 109376 Right: 113280 Middle : 113281

l=109376 r=111327 Step: 10 Your random guess between Left: 109376 Right: 111327 Middle : 111328

l=110352 r=111327 l=110840 r=111327 l=111084 r=111327 l=111206 r=111327 l=111267 r=111327 l=111267 r=111296 Step: 16 Your random guess between Left: 111267 Right: 111296 Middle : 111297

l=111267 r=111280 Step: 17 Your random guess between Left: 111267 Right: 111280 Middle : 111281

l=111274 r=111280 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=156251 r=187499 l=156251 r=171874 Step: 7 Your random guess between Left: 156251 Right: 171874 Middle : 171875

l=164063 r=171874 l=164063 r=167967 Step: 9 Your random guess between Left: 164063 Right: 167967 Middle : 167968

l=164063 r=166014 Step: 10 Your random guess between Left: 164063 Right: 166014 Middle : 166015

l=164063 r=165037 Step: 11 Your random guess between Left: 164063 Right: 165037 Middle : 165038

l=164551 r=165037 l=164795 r=165037 l=164795 r=164915 Step: 14 Your random guess between Left: 164795 Right: 164915 Middle : 164916

l=164795 r=164854 Step: 15 Your random guess between Left: 164795 Right: 164854 Middle : 164855

l=164795 r=164823 Step: 16 Your random guess between Left: 164795 Right: 164823 Middle : 164824

l=164795 r=164808 Step: 17 Your random guess between Left: 164795 Right: 164808 Middle : 164809

l=164802 r=164808 l=164806 r=164808 l=164806 r=164806 Step: 20 Your random guess between Left: 164806 Right: 164806 Middle : 164807

l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=625001 r=749999 l=687501 r=749999 l=687501 r=718749 Step: 6 Your random guess between Left: 687501 Right: 718749 Middle : 718750

l=703126 r=718749 l=703126 r=710936 Step: 8 Your random guess between Left: 703126 Right: 710936 Middle : 710937

l=707032 r=710936 l=707032 r=708983 Step: 10 Your random guess between Left: 707032 Right: 708983 Middle : 708984

l=708008 r=708983 l=708008 r=708494 Step: 12 Your random guess between Left: 708008 Right: 708494 Middle : 708495

l=708252 r=708494 l=708374 r=708494 l=708435 r=708494 l=708465 r=708494 l=708465 r=708478 Step: 17 Your random guess between Left: 708465 Right: 708478 Middle : 708479

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=62501 r=124999 l=93751 r=124999 l=109376 r=124999 l=109376 r=117186 Step: 8 Your random guess between Left: 109376 Right: 117186 Middle : 117187

l=113282 r=117186 l=113282 r=115233 Step: 10 Your random guess between Left: 113282 Right: 115233 Middle : 115234

l=114258 r=115233 l=114258 r=114744 Step: 12 Your random guess between Left: 114258 Right: 114744 Middle : 114745

l=114502 r=114744 l=114502 r=114622 Step: 14 Your random guess between Left: 114502 Right: 114622 Middle : 114623

l=114563 r=114622 l=114593 r=114622 l=114593 r=114606 Step: 17 Your random guess between Left: 114593 Right: 114606 Middle : 114607

l=114600 r=114606 l=114604 r=114606 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=625001 r=749999 l=625001 r=687499 Step: 5 Your random guess between Left: 625001 Right: 687499 Middle : 687500

l=625001 r=656249 Step: 6 Your random guess between Left: 625001 Right: 656249 Middle : 656250

l=625001 r=640624 Step: 7 Your random guess between Left: 625001 Right: 640624 Middle : 640625

l=625001 r=632811 Step: 8 Your random guess between Left: 625001 Right: 632811 Middle : 632812

l=628907 r=632811 l=628907 r=630858 Step: 10 Your random guess between Left: 628907 Right: 630858 Middle : 630859

l=629883 r=630858 l=629883 r=630369 Step: 12 Your random guess between Left: 629883 Right: 630369 Middle : 630370

l=629883 r=630125 Step: 13 Your random guess between Left: 629883 Right: 630125 Middle : 630126

l=629883 r=630003 Step: 14 Your random guess between Left: 629883 Right: 630003 Middle : 630004

l=629944 r=630003 l=629974 r=630003 l=629989 r=630003 l=629997 r=630003 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=812501 r=874999 l=843751 r=874999 l=843751 r=859374 Step: 7 Your random guess between Left: 843751 Right: 859374 Middle : 859375

l=851563 r=859374 l=855469 r=859374 l=855469 r=857420 Step: 10 Your random guess between Left: 855469 Right: 857420 Middle : 857421

l=856445 r=857420 l=856445 r=856931 Step: 12 Your random guess between Left: 856445 Right: 856931 Middle : 856932

l=856445 r=856687 Step: 13 Your random guess between Left: 856445 Right: 856687 Middle : 856688

l=856445 r=856565 Step: 14 Your random guess between Left: 856445 Right: 856565 Middle : 856566

l=856506 r=856565 l=856536 r=856565 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=875001 r=1000000 l=875001 r=937499 Step: 5 Your random guess between Left: 875001 Right: 937499 Middle : 937500

l=875001 r=906249 Step: 6 Your random guess between Left: 875001 Right: 906249 Middle : 906250

l=875001 r=890624 Step: 7 Your random guess between Left: 875001 Right: 890624 Middle : 890625

l=875001 r=882811 Step: 8 Your random guess between Left: 875001 Right: 882811 Middle : 882812

l=878907 r=882811 l=878907 r=880858 Step: 10 Your random guess between Left: 878907 Right: 880858 Middle : 880859

l=878907 r=879881 Step: 11 Your random guess between Left: 878907 Right: 879881 Middle : 879882

l=879395 r=879881 l=879395 r=879637 Step: 13 Your random guess between Left: 879395 Right: 879637 Middle : 879638

l=879395 r=879515 Step: 14 Your random guess between Left: 879395 Right: 879515 Middle : 879516

l=879456 r=879515 l=879456 r=879484 Step: 16 Your random guess between Left: 879456 Right: 879484 Middle : 879485

l=879456 r=879469 Step: 17 Your random guess between Left: 879456 Right: 879469 Middle : 879470

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=312501 r=374999 l=312501 r=343749 Step: 6 Your random guess between Left: 312501 Right: 343749 Middle : 343750

l=312501 r=328124 Step: 7 Your random guess between Left: 312501 Right: 328124 Middle : 328125

l=312501 r=320311 Step: 8 Your random guess between Left: 312501 Right: 320311 Middle : 320312

l=316407 r=320311 l=316407 r=318358 Step: 10 Your random guess between Left: 316407 Right: 318358 Middle : 318359

l=316407 r=317381 Step: 11 Your random guess between Left: 316407 Right: 317381 Middle : 317382

l=316407 r=316893 Step: 12 Your random guess between Left: 316407 Right: 316893 Middle : 316894

l=316407 r=316649 Step: 13 Your random guess between Left: 316407 Right: 316649 Middle : 316650

l=316407 r=316527 Step: 14 Your random guess between Left: 316407 Right: 316527 Middle : 316528

l=316468 r=316527 l=316498 r=316527 l=316513 r=316527 l=316521 r=316527 l=316521 r=316523 Step: 19 Your random guess between Left: 316521 Right: 316523 Middle : 316524

l=316521 r=316521 Step: 20 Your random guess between Left: 316521 Right: 316521 Middle : 316522

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=1 r=31249 Step: 6 Your random guess between Left: 1 Right: 31249 Middle : 31250

l=1 r=15624 Step: 7 Your random guess between Left: 1 Right: 15624 Middle : 15625

l=7813 r=15624 l=7813 r=11717 Step: 9 Your random guess between Left: 7813 Right: 11717 Middle : 11718

l=9766 r=11717 l=10742 r=11717 l=11230 r=11717 l=11474 r=11717 l=11596 r=11717 l=11657 r=11717 l=11688 r=11717 l=11703 r=11717 l=11703 r=11709 Step: 18 Your random guess between Left: 11703 Right: 11709 Middle : 11710

l=11707 r=11709 l=11709 r=11709 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=187501 r=249999 l=218751 r=249999 l=218751 r=234374 Step: 7 Your random guess between Left: 218751 Right: 234374 Middle : 234375

l=218751 r=226561 Step: 8 Your random guess between Left: 218751 Right: 226561 Middle : 226562

l=222657 r=226561 l=222657 r=224608 Step: 10 Your random guess between Left: 222657 Right: 224608 Middle : 224609

l=223633 r=224608 l=223633 r=224119 Step: 12 Your random guess between Left: 223633 Right: 224119 Middle : 224120

l=223877 r=224119 l=223877 r=223997 Step: 14 Your random guess between Left: 223877 Right: 223997 Middle : 223998

l=223938 r=223997 l=223938 r=223966 Step: 16 Your random guess between Left: 223938 Right: 223966 Middle : 223967

l=223938 r=223951 Step: 17 Your random guess between Left: 223938 Right: 223951 Middle : 223952

l=223945 r=223951 l=223945 r=223947 Step: 19 Your random guess between Left: 223945 Right: 223947 Middle : 223948

l=223947 r=223947 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=750001 r=812499 Step: 5 Your random guess between Left: 750001 Right: 812499 Middle : 812500

l=750001 r=781249 Step: 6 Your random guess between Left: 750001 Right: 781249 Middle : 781250

l=765626 r=781249 l=765626 r=773436 Step: 8 Your random guess between Left: 765626 Right: 773436 Middle : 773437

l=769532 r=773436 l=771485 r=773436 l=772461 r=773436 l=772461 r=772947 Step: 12 Your random guess between Left: 772461 Right: 772947 Middle : 772948

l=772705 r=772947 l=772827 r=772947 l=772827 r=772886 Step: 15 Your random guess between Left: 772827 Right: 772886 Middle : 772887

l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=875001 r=1000000 l=937501 r=1000000 l=937501 r=968749 Step: 6 Your random guess between Left: 937501 Right: 968749 Middle : 968750

l=953126 r=968749 l=960938 r=968749 l=960938 r=964842 Step: 9 Your random guess between Left: 960938 Right: 964842 Middle : 964843

l=960938 r=962889 Step: 10 Your random guess between Left: 960938 Right: 962889 Middle : 962890

l=961914 r=962889 l=962402 r=962889 l=962402 r=962644 Step: 13 Your random guess between Left: 962402 Right: 962644 Middle : 962645

l=962524 r=962644 l=962524 r=962583 Step: 15 Your random guess between Left: 962524 Right: 962583 Middle : 962584

l=962554 r=962583 l=962569 r=962583 l=962569 r=962575 Step: 18 Your random guess between Left: 962569 Right: 962575 Middle : 962576

l=962569 r=962571 Step: 19 Your random guess between Left: 962569 Right: 962571 Middle : 962572

l=962569 r=962569 Step: 20 Your random guess between Left: 962569 Right: 962569 Middle : 962570

l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=562501 r=624999 l=562501 r=593749 Step: 6 Your random guess between Left: 562501 Right: 593749 Middle : 593750

l=562501 r=578124 Step: 7 Your random guess between Left: 562501 Right: 578124 Middle : 578125

l=562501 r=570311 Step: 8 Your random guess between Left: 562501 Right: 570311 Middle : 570312

l=566407 r=570311 l=568360 r=570311 l=568360 r=569334 Step: 11 Your random guess between Left: 568360 Right: 569334 Middle : 569335

l=568848 r=569334 l=569092 r=569334 l=569214 r=569334 l=569275 r=569334 l=569275 r=569303 Step: 16 Your random guess between Left: 569275 Right: 569303 Middle : 569304

l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=750001 r=812499 Step: 5 Your random guess between Left: 750001 Right: 812499 Middle : 812500

l=750001 r=781249 Step: 6 Your random guess between Left: 750001 Right: 781249 Middle : 781250

l=750001 r=765624 Step: 7 Your random guess between Left: 750001 Right: 765624 Middle : 765625

l=750001 r=757811 Step: 8 Your random guess between Left: 750001 Right: 757811 Middle : 757812

l=753907 r=757811 l=753907 r=755858 Step: 10 Your random guess between Left: 753907 Right: 755858 Middle : 755859

l=754883 r=755858 l=755371 r=755858 l=755615 r=755858 l=755615 r=755735 Step: 14 Your random guess between Left: 755615 Right: 755735 Middle : 755736

l=755676 r=755735 l=755706 r=755735 l=755706 r=755719 Step: 17 Your random guess between Left: 755706 Right: 755719 Middle : 755720

l=755713 r=755719 l=755713 r=755715 Step: 19 Your random guess between Left: 755713 Right: 755715 Middle : 755716

l=755713 r=755713 Step: 20 Your random guess between Left: 755713 Right: 755713 Middle : 755714

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=375001 r=499999 l=375001 r=437499 Step: 5 Your random guess between Left: 375001 Right: 437499 Middle : 437500

l=375001 r=406249 Step: 6 Your random guess between Left: 375001 Right: 406249 Middle : 406250

l=375001 r=390624 Step: 7 Your random guess between Left: 375001 Right: 390624 Middle : 390625

l=382813 r=390624 l=382813 r=386717 Step: 9 Your random guess between Left: 382813 Right: 386717 Middle : 386718

l=382813 r=384764 Step: 10 Your random guess between Left: 382813 Right: 384764 Middle : 384765

l=383789 r=384764 l=384277 r=384764 l=384277 r=384519 Step: 13 Your random guess between Left: 384277 Right: 384519 Middle : 384520

l=384277 r=384397 Step: 14 Your random guess between Left: 384277 Right: 384397 Middle : 384398

l=384277 r=384336 Step: 15 Your random guess between Left: 384277 Right: 384336 Middle : 384337

l=384307 r=384336 l=384322 r=384336 l=384330 r=384336 l=384330 r=384332 Step: 19 Your random guess between Left: 384330 Right: 384332 Middle : 384333

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=62501 r=124999 l=93751 r=124999 l=109376 r=124999 l=117188 r=124999 l=121094 r=124999 l=123047 r=124999 l=124024 r=124999 l=124024 r=124510 Step: 12 Your random guess between Left: 124024 Right: 124510 Middle : 124511

l=124268 r=124510 l=124268 r=124388 Step: 14 Your random guess between Left: 124268 Right: 124388 Middle : 124389

l=124329 r=124388 l=124359 r=124388 l=124374 r=124388 l=124374 r=124380 Step: 18 Your random guess between Left: 124374 Right: 124380 Middle : 124381

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=125001 r=156249 Step: 6 Your random guess between Left: 125001 Right: 156249 Middle : 156250

l=140626 r=156249 l=140626 r=148436 Step: 8 Your random guess between Left: 140626 Right: 148436 Middle : 148437

l=144532 r=148436 l=146485 r=148436 l=146485 r=147459 Step: 11 Your random guess between Left: 146485 Right: 147459 Middle : 147460

l=146485 r=146971 Step: 12 Your random guess between Left: 146485 Right: 146971 Middle : 146972

l=146729 r=146971 l=146729 r=146849 Step: 14 Your random guess between Left: 146729 Right: 146849 Middle : 146850

l=146729 r=146788 Step: 15 Your random guess between Left: 146729 Right: 146788 Middle : 146789

l=146759 r=146788 l=146759 r=146772 Step: 17 Your random guess between Left: 146759 Right: 146772 Middle : 146773

l=146759 r=146764 Step: 18 Your random guess between Left: 146759 Right: 146764 Middle : 146765

l=146759 r=146760 Step: 19 Your random guess between Left: 146759 Right: 146760 Middle : 146761

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=125001 r=156249 Step: 6 Your random guess between Left: 125001 Right: 156249 Middle : 156250

l=125001 r=140624 Step: 7 Your random guess between Left: 125001 Right: 140624 Middle : 140625

l=125001 r=132811 Step: 8 Your random guess between Left: 125001 Right: 132811 Middle : 132812

l=125001 r=128905 Step: 9 Your random guess between Left: 125001 Right: 128905 Middle : 128906

l=125001 r=126952 Step: 10 Your random guess between Left: 125001 Right: 126952 Middle : 126953

l=125001 r=125975 Step: 11 Your random guess between Left: 125001 Right: 125975 Middle : 125976

l=125489 r=125975 l=125733 r=125975 l=125733 r=125853 Step: 14 Your random guess between Left: 125733 Right: 125853 Middle : 125854

l=125794 r=125853 l=125794 r=125822 Step: 16 Your random guess between Left: 125794 Right: 125822 Middle : 125823

l=125794 r=125807 Step: 17 Your random guess between Left: 125794 Right: 125807 Middle : 125808

l=125794 r=125799 Step: 18 Your random guess between Left: 125794 Right: 125799 Middle : 125800

l=125794 r=125795 Step: 19 Your random guess between Left: 125794 Right: 125795 Middle : 125796

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=281251 r=312499 l=296876 r=312499 l=304688 r=312499 l=304688 r=308592 Step: 9 Your random guess between Left: 304688 Right: 308592 Middle : 308593

l=304688 r=306639 Step: 10 Your random guess between Left: 304688 Right: 306639 Middle : 306640

l=305664 r=306639 l=305664 r=306150 Step: 12 Your random guess between Left: 305664 Right: 306150 Middle : 306151

l=305664 r=305906 Step: 13 Your random guess between Left: 305664 Right: 305906 Middle : 305907

l=305786 r=305906 l=305847 r=305906 l=305847 r=305875 Step: 16 Your random guess between Left: 305847 Right: 305875 Middle : 305876

l=305862 r=305875 l=305869 r=305875 l=305873 r=305875 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=500001 r=562499 Step: 5 Your random guess between Left: 500001 Right: 562499 Middle : 562500

l=531251 r=562499 l=531251 r=546874 Step: 7 Your random guess between Left: 531251 Right: 546874 Middle : 546875

l=531251 r=539061 Step: 8 Your random guess between Left: 531251 Right: 539061 Middle : 539062

l=531251 r=535155 Step: 9 Your random guess between Left: 531251 Right: 535155 Middle : 535156

l=531251 r=533202 Step: 10 Your random guess between Left: 531251 Right: 533202 Middle : 533203

l=532227 r=533202 l=532227 r=532713 Step: 12 Your random guess between Left: 532227 Right: 532713 Middle : 532714

l=532471 r=532713 l=532593 r=532713 l=532593 r=532652 Step: 15 Your random guess between Left: 532593 Right: 532652 Middle : 532653

l=532623 r=532652 l=532623 r=532636 Step: 17 Your random guess between Left: 532623 Right: 532636 Middle : 532637

l=532630 r=532636 l=532634 r=532636 l=532636 r=532636 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=625001 r=749999 l=687501 r=749999 l=687501 r=718749 Step: 6 Your random guess between Left: 687501 Right: 718749 Middle : 718750

l=687501 r=703124 Step: 7 Your random guess between Left: 687501 Right: 703124 Middle : 703125

l=695313 r=703124 l=699219 r=703124 l=701172 r=703124 l=701172 r=702147 Step: 11 Your random guess between Left: 701172 Right: 702147 Middle : 702148

l=701660 r=702147 l=701904 r=702147 l=702026 r=702147 l=702026 r=702085 Step: 15 Your random guess between Left: 702026 Right: 702085 Middle : 702086

l=702026 r=702054 Step: 16 Your random guess between Left: 702026 Right: 702054 Middle : 702055

l=702026 r=702039 Step: 17 Your random guess between Left: 702026 Right: 702039 Middle : 702040

l=702033 r=702039 l=702037 r=702039 l=702037 r=702037 Step: 20 Your random guess between Left: 702037 Right: 702037 Middle : 702038

l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=750001 r=812499 Step: 5 Your random guess between Left: 750001 Right: 812499 Middle : 812500

l=750001 r=781249 Step: 6 Your random guess between Left: 750001 Right: 781249 Middle : 781250

l=765626 r=781249 l=765626 r=773436 Step: 8 Your random guess between Left: 765626 Right: 773436 Middle : 773437

l=765626 r=769530 Step: 9 Your random guess between Left: 765626 Right: 769530 Middle : 769531

l=765626 r=767577 Step: 10 Your random guess between Left: 765626 Right: 767577 Middle : 767578

l=766602 r=767577 l=766602 r=767088 Step: 12 Your random guess between Left: 766602 Right: 767088 Middle : 767089

l=766846 r=767088 l=766846 r=766966 Step: 14 Your random guess between Left: 766846 Right: 766966 Middle : 766967

l=766846 r=766905 Step: 15 Your random guess between Left: 766846 Right: 766905 Middle : 766906

l=766876 r=766905 l=766876 r=766889 Step: 17 Your random guess between Left: 766876 Right: 766889 Middle : 766890

l=766883 r=766889 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=875001 r=1000000 l=937501 r=1000000 l=968751 r=1000000 l=984376 r=1000000 l=984376 r=992187 Step: 8 Your random guess between Left: 984376 Right: 992187 Middle : 992188

l=988282 r=992187 l=990235 r=992187 l=990235 r=991210 Step: 11 Your random guess between Left: 990235 Right: 991210 Middle : 991211

l=990235 r=990721 Step: 12 Your random guess between Left: 990235 Right: 990721 Middle : 990722

l=990235 r=990477 Step: 13 Your random guess between Left: 990235 Right: 990477 Middle : 990478

l=990357 r=990477 l=990357 r=990416 Step: 15 Your random guess between Left: 990357 Right: 990416 Middle : 990417

l=990387 r=990416 l=990387 r=990400 Step: 17 Your random guess between Left: 990387 Right: 990400 Middle : 990401

l=990387 r=990392 Step: 18 Your random guess between Left: 990387 Right: 990392 Middle : 990393

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=62501 r=124999 l=93751 r=124999 l=109376 r=124999 l=109376 r=117186 Step: 8 Your random guess between Left: 109376 Right: 117186 Middle : 117187

l=109376 r=113280 Step: 9 Your random guess between Left: 109376 Right: 113280 Middle : 113281

l=109376 r=111327 Step: 10 Your random guess between Left: 109376 Right: 111327 Middle : 111328

l=110352 r=111327 l=110352 r=110838 Step: 12 Your random guess between Left: 110352 Right: 110838 Middle : 110839

l=110352 r=110594 Step: 13 Your random guess between Left: 110352 Right: 110594 Middle : 110595

l=110474 r=110594 l=110535 r=110594 l=110535 r=110563 Step: 16 Your random guess between Left: 110535 Right: 110563 Middle : 110564

l=110535 r=110548 Step: 17 Your random guess between Left: 110535 Right: 110548 Middle : 110549

l=110542 r=110548 l=110542 r=110544 Step: 19 Your random guess between Left: 110542 Right: 110544 Middle : 110545

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=125001 r=156249 Step: 6 Your random guess between Left: 125001 Right: 156249 Middle : 156250

l=140626 r=156249 l=148438 r=156249 l=152344 r=156249 l=154297 r=156249 l=154297 r=155272 Step: 11 Your random guess between Left: 154297 Right: 155272 Middle : 155273

l=154785 r=155272 l=154785 r=155027 Step: 13 Your random guess between Left: 154785 Right: 155027 Middle : 155028

l=154785 r=154905 Step: 14 Your random guess between Left: 154785 Right: 154905 Middle : 154906

l=154846 r=154905 l=154846 r=154874 Step: 16 Your random guess between Left: 154846 Right: 154874 Middle : 154875

l=154846 r=154859 Step: 17 Your random guess between Left: 154846 Right: 154859 Middle : 154860

l=154853 r=154859 l=154857 r=154859 l=154859 r=154859 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=625001 r=749999 l=625001 r=687499 Step: 5 Your random guess between Left: 625001 Right: 687499 Middle : 687500

l=656251 r=687499 l=671876 r=687499 l=679688 r=687499 l=683594 r=687499 l=685547 r=687499 l=686524 r=687499 l=687012 r=687499 l=687012 r=687254 Step: 13 Your random guess between Left: 687012 Right: 687254 Middle : 687255

l=687012 r=687132 Step: 14 Your random guess between Left: 687012 Right: 687132 Middle : 687133

l=687073 r=687132 l=687073 r=687101 Step: 16 Your random guess between Left: 687073 Right: 687101 Middle : 687102

l=687088 r=687101 l=687088 r=687093 Step: 18 Your random guess between Left: 687088 Right: 687093 Middle : 687094

l=687088 r=687089 Step: 19 Your random guess between Left: 687088 Right: 687089 Middle : 687090

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=156251 r=187499 l=156251 r=171874 Step: 7 Your random guess between Left: 156251 Right: 171874 Middle : 171875

l=156251 r=164061 Step: 8 Your random guess between Left: 156251 Right: 164061 Middle : 164062

l=156251 r=160155 Step: 9 Your random guess between Left: 156251 Right: 160155 Middle : 160156

l=156251 r=158202 Step: 10 Your random guess between Left: 156251 Right: 158202 Middle : 158203

l=156251 r=157225 Step: 11 Your random guess between Left: 156251 Right: 157225 Middle : 157226

l=156739 r=157225 l=156983 r=157225 l=157105 r=157225 l=157105 r=157164 Step: 15 Your random guess between Left: 157105 Right: 157164 Middle : 157165

l=157135 r=157164 l=157150 r=157164 l=157158 r=157164 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=187501 r=249999 l=218751 r=249999 l=234376 r=249999 l=242188 r=249999 l=246094 r=249999 l=248047 r=249999 l=249024 r=249999 l=249024 r=249510 Step: 12 Your random guess between Left: 249024 Right: 249510 Middle : 249511

l=249268 r=249510 l=249390 r=249510 l=249390 r=249449 Step: 15 Your random guess between Left: 249390 Right: 249449 Middle : 249450

l=249420 r=249449 l=249420 r=249433 Step: 17 Your random guess between Left: 249420 Right: 249433 Middle : 249434

l=249420 r=249425 Step: 18 Your random guess between Left: 249420 Right: 249425 Middle : 249426

l=249423 r=249425 l=249425 r=249425 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=875001 r=1000000 l=937501 r=1000000 l=968751 r=1000000 l=984376 r=1000000 l=984376 r=992187 Step: 8 Your random guess between Left: 984376 Right: 992187 Middle : 992188

l=988282 r=992187 l=990235 r=992187 l=991212 r=992187 l=991212 r=991698 Step: 12 Your random guess between Left: 991212 Right: 991698 Middle : 991699

l=991212 r=991454 Step: 13 Your random guess between Left: 991212 Right: 991454 Middle : 991455

l=991212 r=991332 Step: 14 Your random guess between Left: 991212 Right: 991332 Middle : 991333

l=991212 r=991271 Step: 15 Your random guess between Left: 991212 Right: 991271 Middle : 991272

l=991242 r=991271 l=991257 r=991271 l=991265 r=991271 l=991265 r=991267 Step: 19 Your random guess between Left: 991265 Right: 991267 Middle : 991268

l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=562501 r=624999 l=562501 r=593749 Step: 6 Your random guess between Left: 562501 Right: 593749 Middle : 593750

l=578126 r=593749 l=578126 r=585936 Step: 8 Your random guess between Left: 578126 Right: 585936 Middle : 585937

l=582032 r=585936 l=583985 r=585936 l=583985 r=584959 Step: 11 Your random guess between Left: 583985 Right: 584959 Middle : 584960

l=584473 r=584959 l=584717 r=584959 l=584839 r=584959 l=584839 r=584898 Step: 15 Your random guess between Left: 584839 Right: 584898 Middle : 584899

l=584869 r=584898 l=584869 r=584882 Step: 17 Your random guess between Left: 584869 Right: 584882 Middle : 584883

l=584876 r=584882 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=250001 r=281249 Step: 6 Your random guess between Left: 250001 Right: 281249 Middle : 281250

l=250001 r=265624 Step: 7 Your random guess between Left: 250001 Right: 265624 Middle : 265625

l=250001 r=257811 Step: 8 Your random guess between Left: 250001 Right: 257811 Middle : 257812

l=250001 r=253905 Step: 9 Your random guess between Left: 250001 Right: 253905 Middle : 253906

l=251954 r=253905 l=251954 r=252928 Step: 11 Your random guess between Left: 251954 Right: 252928 Middle : 252929

l=252442 r=252928 l=252442 r=252684 Step: 13 Your random guess between Left: 252442 Right: 252684 Middle : 252685

l=252442 r=252562 Step: 14 Your random guess between Left: 252442 Right: 252562 Middle : 252563

l=252442 r=252501 Step: 15 Your random guess between Left: 252442 Right: 252501 Middle : 252502

l=252472 r=252501 l=252472 r=252485 Step: 17 Your random guess between Left: 252472 Right: 252485 Middle : 252486

l=252479 r=252485 l=252479 r=252481 Step: 19 Your random guess between Left: 252479 Right: 252481 Middle : 252482

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=375001 r=499999 l=437501 r=499999 l=437501 r=468749 Step: 6 Your random guess between Left: 437501 Right: 468749 Middle : 468750

l=437501 r=453124 Step: 7 Your random guess between Left: 437501 Right: 453124 Middle : 453125

l=437501 r=445311 Step: 8 Your random guess between Left: 437501 Right: 445311 Middle : 445312

l=441407 r=445311 l=441407 r=443358 Step: 10 Your random guess between Left: 441407 Right: 443358 Middle : 443359

l=441407 r=442381 Step: 11 Your random guess between Left: 441407 Right: 442381 Middle : 442382

l=441895 r=442381 l=441895 r=442137 Step: 13 Your random guess between Left: 441895 Right: 442137 Middle : 442138

l=441895 r=442015 Step: 14 Your random guess between Left: 441895 Right: 442015 Middle : 442016

l=441956 r=442015 l=441956 r=441984 Step: 16 Your random guess between Left: 441956 Right: 441984 Middle : 441985

l=441956 r=441969 Step: 17 Your random guess between Left: 441956 Right: 441969 Middle : 441970

l=441963 r=441969 l=441963 r=441965 Step: 19 Your random guess between Left: 441963 Right: 441965 Middle : 441966

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=250001 r=281249 Step: 6 Your random guess between Left: 250001 Right: 281249 Middle : 281250

l=250001 r=265624 Step: 7 Your random guess between Left: 250001 Right: 265624 Middle : 265625

l=250001 r=257811 Step: 8 Your random guess between Left: 250001 Right: 257811 Middle : 257812

l=250001 r=253905 Step: 9 Your random guess between Left: 250001 Right: 253905 Middle : 253906

l=250001 r=251952 Step: 10 Your random guess between Left: 250001 Right: 251952 Middle : 251953

l=250001 r=250975 Step: 11 Your random guess between Left: 250001 Right: 250975 Middle : 250976

l=250001 r=250487 Step: 12 Your random guess between Left: 250001 Right: 250487 Middle : 250488

l=250001 r=250243 Step: 13 Your random guess between Left: 250001 Right: 250243 Middle : 250244

l=250001 r=250121 Step: 14 Your random guess between Left: 250001 Right: 250121 Middle : 250122

l=250062 r=250121 l=250092 r=250121 l=250092 r=250105 Step: 17 Your random guess between Left: 250092 Right: 250105 Middle : 250106

l=250092 r=250097 Step: 18 Your random guess between Left: 250092 Right: 250097 Middle : 250098

l=250095 r=250097 l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=750001 r=812499 Step: 5 Your random guess between Left: 750001 Right: 812499 Middle : 812500

l=750001 r=781249 Step: 6 Your random guess between Left: 750001 Right: 781249 Middle : 781250

l=750001 r=765624 Step: 7 Your random guess between Left: 750001 Right: 765624 Middle : 765625

l=750001 r=757811 Step: 8 Your random guess between Left: 750001 Right: 757811 Middle : 757812

l=750001 r=753905 Step: 9 Your random guess between Left: 750001 Right: 753905 Middle : 753906

l=750001 r=751952 Step: 10 Your random guess between Left: 750001 Right: 751952 Middle : 751953

l=750977 r=751952 l=751465 r=751952 l=751465 r=751707 Step: 13 Your random guess between Left: 751465 Right: 751707 Middle : 751708

l=751465 r=751585 Step: 14 Your random guess between Left: 751465 Right: 751585 Middle : 751586

l=751465 r=751524 Step: 15 Your random guess between Left: 751465 Right: 751524 Middle : 751525

l=751495 r=751524 l=751495 r=751508 Step: 17 Your random guess between Left: 751495 Right: 751508 Middle : 751509

l=751502 r=751508 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=125001 r=156249 Step: 6 Your random guess between Left: 125001 Right: 156249 Middle : 156250

l=140626 r=156249 l=140626 r=148436 Step: 8 Your random guess between Left: 140626 Right: 148436 Middle : 148437

l=140626 r=144530 Step: 9 Your random guess between Left: 140626 Right: 144530 Middle : 144531

l=142579 r=144530 l=142579 r=143553 Step: 11 Your random guess between Left: 142579 Right: 143553 Middle : 143554

l=142579 r=143065 Step: 12 Your random guess between Left: 142579 Right: 143065 Middle : 143066

l=142579 r=142821 Step: 13 Your random guess between Left: 142579 Right: 142821 Middle : 142822

l=142579 r=142699 Step: 14 Your random guess between Left: 142579 Right: 142699 Middle : 142700

l=142579 r=142638 Step: 15 Your random guess between Left: 142579 Right: 142638 Middle : 142639

l=142609 r=142638 l=142624 r=142638 l=142632 r=142638 l=142632 r=142634 Step: 19 Your random guess between Left: 142632 Right: 142634 Middle : 142635

l=142632 r=142632 Step: 20 Your random guess between Left: 142632 Right: 142632 Middle : 142633

l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=562501 r=624999 l=562501 r=593749 Step: 6 Your random guess between Left: 562501 Right: 593749 Middle : 593750

l=578126 r=593749 l=578126 r=585936 Step: 8 Your random guess between Left: 578126 Right: 585936 Middle : 585937

l=582032 r=585936 l=582032 r=583983 Step: 10 Your random guess between Left: 582032 Right: 583983 Middle : 583984

l=583008 r=583983 l=583008 r=583494 Step: 12 Your random guess between Left: 583008 Right: 583494 Middle : 583495

l=583252 r=583494 l=583252 r=583372 Step: 14 Your random guess between Left: 583252 Right: 583372 Middle : 583373

l=583313 r=583372 l=583343 r=583372 l=583358 r=583372 l=583366 r=583372 l=583370 r=583372 l=583370 r=583370 Step: 20 Your random guess between Left: 583370 Right: 583370 Middle : 583371

l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=812501 r=874999 l=843751 r=874999 l=859376 r=874999 l=867188 r=874999 l=867188 r=871092 Step: 9 Your random guess between Left: 867188 Right: 871092 Middle : 871093

l=867188 r=869139 Step: 10 Your random guess between Left: 867188 Right: 869139 Middle : 869140

l=867188 r=868162 Step: 11 Your random guess between Left: 867188 Right: 868162 Middle : 868163

l=867676 r=868162 l=867920 r=868162 l=868042 r=868162 l=868103 r=868162 l=868103 r=868131 Step: 16 Your random guess between Left: 868103 Right: 868131 Middle : 868132

l=868103 r=868116 Step: 17 Your random guess between Left: 868103 Right: 868116 Middle : 868117

l=868110 r=868116 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=156251 r=187499 l=171876 r=187499 l=171876 r=179686 Step: 8 Your random guess between Left: 171876 Right: 179686 Middle : 179687

l=175782 r=179686 l=175782 r=177733 Step: 10 Your random guess between Left: 175782 Right: 177733 Middle : 177734

l=176758 r=177733 l=177246 r=177733 l=177246 r=177488 Step: 13 Your random guess between Left: 177246 Right: 177488 Middle : 177489

l=177368 r=177488 l=177368 r=177427 Step: 15 Your random guess between Left: 177368 Right: 177427 Middle : 177428

l=177368 r=177396 Step: 16 Your random guess between Left: 177368 Right: 177396 Middle : 177397

l=177368 r=177381 Step: 17 Your random guess between Left: 177368 Right: 177381 Middle : 177382

l=177375 r=177381 l=177375 r=177377 Step: 19 Your random guess between Left: 177375 Right: 177377 Middle : 177378

l=177375 r=177375 Step: 20 Your random guess between Left: 177375 Right: 177375 Middle : 177376

l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=875001 r=1000000 l=937501 r=1000000 l=968751 r=1000000 l=968751 r=984374 Step: 7 Your random guess between Left: 968751 Right: 984374 Middle : 984375

l=976563 r=984374 l=976563 r=980467 Step: 9 Your random guess between Left: 976563 Right: 980467 Middle : 980468

l=978516 r=980467 l=978516 r=979490 Step: 11 Your random guess between Left: 978516 Right: 979490 Middle : 979491

l=979004 r=979490 l=979248 r=979490 l=979370 r=979490 l=979370 r=979429 Step: 15 Your random guess between Left: 979370 Right: 979429 Middle : 979430

l=979400 r=979429 l=979415 r=979429 l=979423 r=979429 l=979427 r=979429 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=187501 r=249999 l=218751 r=249999 l=234376 r=249999 l=242188 r=249999 l=242188 r=246092 Step: 9 Your random guess between Left: 242188 Right: 246092 Middle : 246093

l=244141 r=246092 l=245117 r=246092 l=245117 r=245603 Step: 12 Your random guess between Left: 245117 Right: 245603 Middle : 245604

l=245117 r=245359 Step: 13 Your random guess between Left: 245117 Right: 245359 Middle : 245360

l=245239 r=245359 l=245239 r=245298 Step: 15 Your random guess between Left: 245239 Right: 245298 Middle : 245299

l=245269 r=245298 l=245269 r=245282 Step: 17 Your random guess between Left: 245269 Right: 245282 Middle : 245283

l=245269 r=245274 Step: 18 Your random guess between Left: 245269 Right: 245274 Middle : 245275

l=245269 r=245270 Step: 19 Your random guess between Left: 245269 Right: 245270 Middle : 245271

l=245270 r=245270 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=187501 r=249999 l=187501 r=218749 Step: 6 Your random guess between Left: 187501 Right: 218749 Middle : 218750

l=187501 r=203124 Step: 7 Your random guess between Left: 187501 Right: 203124 Middle : 203125

l=195313 r=203124 l=199219 r=203124 l=201172 r=203124 l=202149 r=203124 l=202637 r=203124 l=202881 r=203124 l=203003 r=203124 l=203064 r=203124 l=203095 r=203124 l=203095 r=203108 Step: 17 Your random guess between Left: 203095 Right: 203108 Middle : 203109

l=203102 r=203108 l=203102 r=203104 Step: 19 Your random guess between Left: 203102 Right: 203104 Middle : 203105

l=203104 r=203104 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=500001 r=562499 Step: 5 Your random guess between Left: 500001 Right: 562499 Middle : 562500

l=500001 r=531249 Step: 6 Your random guess between Left: 500001 Right: 531249 Middle : 531250

l=515626 r=531249 l=523438 r=531249 l=523438 r=527342 Step: 9 Your random guess between Left: 523438 Right: 527342 Middle : 527343

l=523438 r=525389 Step: 10 Your random guess between Left: 523438 Right: 525389 Middle : 525390

l=524414 r=525389 l=524902 r=525389 l=525146 r=525389 l=525268 r=525389 l=525329 r=525389 l=525360 r=525389 l=525375 r=525389 l=525375 r=525381 Step: 18 Your random guess between Left: 525375 Right: 525381 Middle : 525382

l=525375 r=525377 Step: 19 Your random guess between Left: 525375 Right: 525377 Middle : 525378

l=525375 r=525375 Step: 20 Your random guess between Left: 525375 Right: 525375 Middle : 525376

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=62501 r=124999 l=62501 r=93749 Step: 6 Your random guess between Left: 62501 Right: 93749 Middle : 93750

l=78126 r=93749 l=78126 r=85936 Step: 8 Your random guess between Left: 78126 Right: 85936 Middle : 85937

l=78126 r=82030 Step: 9 Your random guess between Left: 78126 Right: 82030 Middle : 82031

l=78126 r=80077 Step: 10 Your random guess between Left: 78126 Right: 80077 Middle : 80078

l=79102 r=80077 l=79102 r=79588 Step: 12 Your random guess between Left: 79102 Right: 79588 Middle : 79589

l=79102 r=79344 Step: 13 Your random guess between Left: 79102 Right: 79344 Middle : 79345

l=79224 r=79344 l=79224 r=79283 Step: 15 Your random guess between Left: 79224 Right: 79283 Middle : 79284

l=79254 r=79283 l=79269 r=79283 l=79277 r=79283 l=79277 r=79279 Step: 19 Your random guess between Left: 79277 Right: 79279 Middle : 79280

l=79277 r=79277 Step: 20 Your random guess between Left: 79277 Right: 79277 Middle : 79278

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=125001 r=156249 Step: 6 Your random guess between Left: 125001 Right: 156249 Middle : 156250

l=125001 r=140624 Step: 7 Your random guess between Left: 125001 Right: 140624 Middle : 140625

l=132813 r=140624 l=132813 r=136717 Step: 9 Your random guess between Left: 132813 Right: 136717 Middle : 136718

l=134766 r=136717 l=135742 r=136717 l=136230 r=136717 l=136230 r=136472 Step: 13 Your random guess between Left: 136230 Right: 136472 Middle : 136473

l=136352 r=136472 l=136352 r=136411 Step: 15 Your random guess between Left: 136352 Right: 136411 Middle : 136412

l=136352 r=136380 Step: 16 Your random guess between Left: 136352 Right: 136380 Middle : 136381

l=136352 r=136365 Step: 17 Your random guess between Left: 136352 Right: 136365 Middle : 136366

l=136359 r=136365 l=136363 r=136365 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=625001 r=749999 l=687501 r=749999 l=687501 r=718749 Step: 6 Your random guess between Left: 687501 Right: 718749 Middle : 718750

l=703126 r=718749 l=710938 r=718749 l=714844 r=718749 l=716797 r=718749 l=716797 r=717772 Step: 11 Your random guess between Left: 716797 Right: 717772 Middle : 717773

l=716797 r=717283 Step: 12 Your random guess between Left: 716797 Right: 717283 Middle : 717284

l=716797 r=717039 Step: 13 Your random guess between Left: 716797 Right: 717039 Middle : 717040

l=716797 r=716917 Step: 14 Your random guess between Left: 716797 Right: 716917 Middle : 716918

l=716858 r=716917 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=156251 r=187499 l=156251 r=171874 Step: 7 Your random guess between Left: 156251 Right: 171874 Middle : 171875

l=156251 r=164061 Step: 8 Your random guess between Left: 156251 Right: 164061 Middle : 164062

l=156251 r=160155 Step: 9 Your random guess between Left: 156251 Right: 160155 Middle : 160156

l=156251 r=158202 Step: 10 Your random guess between Left: 156251 Right: 158202 Middle : 158203

l=156251 r=157225 Step: 11 Your random guess between Left: 156251 Right: 157225 Middle : 157226

l=156739 r=157225 l=156983 r=157225 l=157105 r=157225 l=157166 r=157225 l=157196 r=157225 l=157211 r=157225 l=157219 r=157225 l=157219 r=157221 Step: 19 Your random guess between Left: 157219 Right: 157221 Middle : 157222

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=125001 r=249999 l=125001 r=187499 Step: 5 Your random guess between Left: 125001 Right: 187499 Middle : 187500

l=125001 r=156249 Step: 6 Your random guess between Left: 125001 Right: 156249 Middle : 156250

l=125001 r=140624 Step: 7 Your random guess between Left: 125001 Right: 140624 Middle : 140625

l=125001 r=132811 Step: 8 Your random guess between Left: 125001 Right: 132811 Middle : 132812

l=128907 r=132811 l=130860 r=132811 l=130860 r=131834 Step: 11 Your random guess between Left: 130860 Right: 131834 Middle : 131835

l=131348 r=131834 l=131592 r=131834 l=131592 r=131712 Step: 14 Your random guess between Left: 131592 Right: 131712 Middle : 131713

l=131592 r=131651 Step: 15 Your random guess between Left: 131592 Right: 131651 Middle : 131652

l=131622 r=131651 l=131637 r=131651 l=131645 r=131651 l=131649 r=131651 l=131649 r=131649 Step: 20 Your random guess between Left: 131649 Right: 131649 Middle : 131650

l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=625001 r=749999 l=625001 r=687499 Step: 5 Your random guess between Left: 625001 Right: 687499 Middle : 687500

l=625001 r=656249 Step: 6 Your random guess between Left: 625001 Right: 656249 Middle : 656250

l=640626 r=656249 l=648438 r=656249 l=648438 r=652342 Step: 9 Your random guess between Left: 648438 Right: 652342 Middle : 652343

l=650391 r=652342 l=650391 r=651365 Step: 11 Your random guess between Left: 650391 Right: 651365 Middle : 651366

l=650879 r=651365 l=650879 r=651121 Step: 13 Your random guess between Left: 650879 Right: 651121 Middle : 651122

l=650879 r=650999 Step: 14 Your random guess between Left: 650879 Right: 650999 Middle : 651000

l=650940 r=650999 l=650970 r=650999 l=650970 r=650983 Step: 17 Your random guess between Left: 650970 Right: 650983 Middle : 650984

l=650970 r=650975 Step: 18 Your random guess between Left: 650970 Right: 650975 Middle : 650976

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=281251 r=312499 l=296876 r=312499 l=296876 r=304686 Step: 8 Your random guess between Left: 296876 Right: 304686 Middle : 304687

l=300782 r=304686 l=300782 r=302733 Step: 10 Your random guess between Left: 300782 Right: 302733 Middle : 302734

l=300782 r=301756 Step: 11 Your random guess between Left: 300782 Right: 301756 Middle : 301757

l=301270 r=301756 l=301514 r=301756 l=301514 r=301634 Step: 14 Your random guess between Left: 301514 Right: 301634 Middle : 301635

l=301514 r=301573 Step: 15 Your random guess between Left: 301514 Right: 301573 Middle : 301574

l=301544 r=301573 l=301559 r=301573 l=301567 r=301573 l=301567 r=301569 Step: 19 Your random guess between Left: 301567 Right: 301569 Middle : 301570

l=301567 r=301567 Step: 20 Your random guess between Left: 301567 Right: 301567 Middle : 301568

l:1 r:1000000 l=500001 r=1000000 l=750001 r=1000000 l=750001 r=874999 Step: 4 Your random guess between Left: 750001 Right: 874999 Middle : 875000

l=812501 r=874999 l=812501 r=843749 Step: 6 Your random guess between Left: 812501 Right: 843749 Middle : 843750

l=828126 r=843749 l=828126 r=835936 Step: 8 Your random guess between Left: 828126 Right: 835936 Middle : 835937

l=832032 r=835936 l=833985 r=835936 l=833985 r=834959 Step: 11 Your random guess between Left: 833985 Right: 834959 Middle : 834960

l=833985 r=834471 Step: 12 Your random guess between Left: 833985 Right: 834471 Middle : 834472

l=834229 r=834471 l=834229 r=834349 Step: 14 Your random guess between Left: 834229 Right: 834349 Middle : 834350

l=834290 r=834349 l=834290 r=834318 Step: 16 Your random guess between Left: 834290 Right: 834318 Middle : 834319

l=834290 r=834303 Step: 17 Your random guess between Left: 834290 Right: 834303 Middle : 834304

l=834297 r=834303 l=834297 r=834299 Step: 19 Your random guess between Left: 834297 Right: 834299 Middle : 834300

l=834299 r=834299 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=62501 r=124999 l=62501 r=93749 Step: 6 Your random guess between Left: 62501 Right: 93749 Middle : 93750

l=62501 r=78124 Step: 7 Your random guess between Left: 62501 Right: 78124 Middle : 78125

l=70313 r=78124 l=70313 r=74217 Step: 9 Your random guess between Left: 70313 Right: 74217 Middle : 74218

l=72266 r=74217 l=73242 r=74217 l=73730 r=74217 l=73974 r=74217 l=74096 r=74217 l=74157 r=74217 l=74157 r=74186 Step: 16 Your random guess between Left: 74157 Right: 74186 Middle : 74187

l=74172 r=74186 l=74180 r=74186 l=74184 r=74186 l=74184 r=74184 Step: 20 Your random guess between Left: 74184 Right: 74184 Middle : 74185

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=31251 r=62499 l=31251 r=46874 Step: 7 Your random guess between Left: 31251 Right: 46874 Middle : 46875

l=31251 r=39061 Step: 8 Your random guess between Left: 31251 Right: 39061 Middle : 39062

l=35157 r=39061 l=37110 r=39061 l=37110 r=38084 Step: 11 Your random guess between Left: 37110 Right: 38084 Middle : 38085

l=37598 r=38084 l=37598 r=37840 Step: 13 Your random guess between Left: 37598 Right: 37840 Middle : 37841

l=37720 r=37840 l=37720 r=37779 Step: 15 Your random guess between Left: 37720 Right: 37779 Middle : 37780

l=37720 r=37748 Step: 16 Your random guess between Left: 37720 Right: 37748 Middle : 37749

l=37720 r=37733 Step: 17 Your random guess between Left: 37720 Right: 37733 Middle : 37734

l=37727 r=37733 l=37727 r=37729 Step: 19 Your random guess between Left: 37727 Right: 37729 Middle : 37730

l=37727 r=37727 Step: 20 Your random guess between Left: 37727 Right: 37727 Middle : 37728

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=62501 r=124999 l=93751 r=124999 l=93751 r=109374 Step: 7 Your random guess between Left: 93751 Right: 109374 Middle : 109375

l=101563 r=109374 l=101563 r=105467 Step: 9 Your random guess between Left: 101563 Right: 105467 Middle : 105468

l=103516 r=105467 l=103516 r=104490 Step: 11 Your random guess between Left: 103516 Right: 104490 Middle : 104491

l=104004 r=104490 l=104248 r=104490 l=104370 r=104490 l=104431 r=104490 l=104431 r=104459 Step: 16 Your random guess between Left: 104431 Right: 104459 Middle : 104460

l=104446 r=104459 l=104446 r=104451 Step: 18 Your random guess between Left: 104446 Right: 104451 Middle : 104452

l=104449 r=104451 l=104451 r=104451 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=1 r=31249 Step: 6 Your random guess between Left: 1 Right: 31249 Middle : 31250

l=15626 r=31249 l=15626 r=23436 Step: 8 Your random guess between Left: 15626 Right: 23436 Middle : 23437

l=15626 r=19530 Step: 9 Your random guess between Left: 15626 Right: 19530 Middle : 19531

l=17579 r=19530 l=18555 r=19530 l=19043 r=19530 l=19287 r=19530 l=19287 r=19407 Step: 14 Your random guess between Left: 19287 Right: 19407 Middle : 19408

l=19348 r=19407 l=19378 r=19407 l=19393 r=19407 l=19393 r=19399 Step: 18 Your random guess between Left: 19393 Right: 19399 Middle : 19400

l=19397 r=19399 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=312501 r=374999 l=343751 r=374999 l=343751 r=359374 Step: 7 Your random guess between Left: 343751 Right: 359374 Middle : 359375

l=343751 r=351561 Step: 8 Your random guess between Left: 343751 Right: 351561 Middle : 351562

l=343751 r=347655 Step: 9 Your random guess between Left: 343751 Right: 347655 Middle : 347656

l=345704 r=347655 l=345704 r=346678 Step: 11 Your random guess between Left: 345704 Right: 346678 Middle : 346679

l=345704 r=346190 Step: 12 Your random guess between Left: 345704 Right: 346190 Middle : 346191

l=345948 r=346190 l=346070 r=346190 l=346070 r=346129 Step: 15 Your random guess between Left: 346070 Right: 346129 Middle : 346130

l=346070 r=346098 Step: 16 Your random guess between Left: 346070 Right: 346098 Middle : 346099

l=346085 r=346098 l=346092 r=346098 l=346092 r=346094 Step: 19 Your random guess between Left: 346092 Right: 346094 Middle : 346095

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=375001 r=499999 l=375001 r=437499 Step: 5 Your random guess between Left: 375001 Right: 437499 Middle : 437500

l=375001 r=406249 Step: 6 Your random guess between Left: 375001 Right: 406249 Middle : 406250

l=375001 r=390624 Step: 7 Your random guess between Left: 375001 Right: 390624 Middle : 390625

l=375001 r=382811 Step: 8 Your random guess between Left: 375001 Right: 382811 Middle : 382812

l=378907 r=382811 l=380860 r=382811 l=381836 r=382811 l=381836 r=382322 Step: 12 Your random guess between Left: 381836 Right: 382322 Middle : 382323

l=381836 r=382078 Step: 13 Your random guess between Left: 381836 Right: 382078 Middle : 382079

l=381836 r=381956 Step: 14 Your random guess between Left: 381836 Right: 381956 Middle : 381957

l=381836 r=381895 Step: 15 Your random guess between Left: 381836 Right: 381895 Middle : 381896

l=381866 r=381895 l=381866 r=381879 Step: 17 Your random guess between Left: 381866 Right: 381879 Middle : 381880

l=381873 r=381879 l=381873 r=381875 Step: 19 Your random guess between Left: 381873 Right: 381875 Middle : 381876

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=31251 r=62499 l=31251 r=46874 Step: 7 Your random guess between Left: 31251 Right: 46874 Middle : 46875

l=31251 r=39061 Step: 8 Your random guess between Left: 31251 Right: 39061 Middle : 39062

l=31251 r=35155 Step: 9 Your random guess between Left: 31251 Right: 35155 Middle : 35156

l=31251 r=33202 Step: 10 Your random guess between Left: 31251 Right: 33202 Middle : 33203

l=31251 r=32225 Step: 11 Your random guess between Left: 31251 Right: 32225 Middle : 32226

l=31251 r=31737 Step: 12 Your random guess between Left: 31251 Right: 31737 Middle : 31738

l=31251 r=31493 Step: 13 Your random guess between Left: 31251 Right: 31493 Middle : 31494

l=31251 r=31371 Step: 14 Your random guess between Left: 31251 Right: 31371 Middle : 31372

l=31312 r=31371 l=31312 r=31340 Step: 16 Your random guess between Left: 31312 Right: 31340 Middle : 31341

l=31327 r=31340 l=31327 r=31332 Step: 18 Your random guess between Left: 31327 Right: 31332 Middle : 31333

l=31330 r=31332 l=31332 r=31332 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=375001 r=499999 l=375001 r=437499 Step: 5 Your random guess between Left: 375001 Right: 437499 Middle : 437500

l=406251 r=437499 l=421876 r=437499 l=429688 r=437499 l=433594 r=437499 l=433594 r=435545 Step: 10 Your random guess between Left: 433594 Right: 435545 Middle : 435546

l=433594 r=434568 Step: 11 Your random guess between Left: 433594 Right: 434568 Middle : 434569

l=433594 r=434080 Step: 12 Your random guess between Left: 433594 Right: 434080 Middle : 434081

l=433594 r=433836 Step: 13 Your random guess between Left: 433594 Right: 433836 Middle : 433837

l=433594 r=433714 Step: 14 Your random guess between Left: 433594 Right: 433714 Middle : 433715

l=433594 r=433653 Step: 15 Your random guess between Left: 433594 Right: 433653 Middle : 433654

l=433594 r=433622 Step: 16 Your random guess between Left: 433594 Right: 433622 Middle : 433623

l=433594 r=433607 Step: 17 Your random guess between Left: 433594 Right: 433607 Middle : 433608

l=433594 r=433599 Step: 18 Your random guess between Left: 433594 Right: 433599 Middle : 433600

l=433594 r=433595 Step: 19 Your random guess between Left: 433594 Right: 433595 Middle : 433596

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=31251 r=62499 l=31251 r=46874 Step: 7 Your random guess between Left: 31251 Right: 46874 Middle : 46875

l=31251 r=39061 Step: 8 Your random guess between Left: 31251 Right: 39061 Middle : 39062

l=31251 r=35155 Step: 9 Your random guess between Left: 31251 Right: 35155 Middle : 35156

l=33204 r=35155 l=33204 r=34178 Step: 11 Your random guess between Left: 33204 Right: 34178 Middle : 34179

l=33204 r=33690 Step: 12 Your random guess between Left: 33204 Right: 33690 Middle : 33691

l=33204 r=33446 Step: 13 Your random guess between Left: 33204 Right: 33446 Middle : 33447

l=33326 r=33446 l=33326 r=33385 Step: 15 Your random guess between Left: 33326 Right: 33385 Middle : 33386

l=33326 r=33354 Step: 16 Your random guess between Left: 33326 Right: 33354 Middle : 33355

l=33326 r=33339 Step: 17 Your random guess between Left: 33326 Right: 33339 Middle : 33340

l=33326 r=33331 Step: 18 Your random guess between Left: 33326 Right: 33331 Middle : 33332

l=33329 r=33331 l:1 r:1000000 l=500001 r=1000000 l=500001 r=749999 Step: 3 Your random guess between Left: 500001 Right: 749999 Middle : 750000

l=500001 r=624999 Step: 4 Your random guess between Left: 500001 Right: 624999 Middle : 625000

l=562501 r=624999 l=562501 r=593749 Step: 6 Your random guess between Left: 562501 Right: 593749 Middle : 593750

l=562501 r=578124 Step: 7 Your random guess between Left: 562501 Right: 578124 Middle : 578125

l=562501 r=570311 Step: 8 Your random guess between Left: 562501 Right: 570311 Middle : 570312

l=562501 r=566405 Step: 9 Your random guess between Left: 562501 Right: 566405 Middle : 566406

l=564454 r=566405 l=565430 r=566405 l=565430 r=565916 Step: 12 Your random guess between Left: 565430 Right: 565916 Middle : 565917

l=565674 r=565916 l=565674 r=565794 Step: 14 Your random guess between Left: 565674 Right: 565794 Middle : 565795

l=565674 r=565733 Step: 15 Your random guess between Left: 565674 Right: 565733 Middle : 565734

l=565674 r=565702 Step: 16 Your random guess between Left: 565674 Right: 565702 Middle : 565703

l=565689 r=565702 l=565689 r=565694 Step: 18 Your random guess between Left: 565689 Right: 565694 Middle : 565695

l=565692 r=565694 l=565694 r=565694 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=281251 r=312499 l=281251 r=296874 Step: 7 Your random guess between Left: 281251 Right: 296874 Middle : 296875

l=289063 r=296874 l=292969 r=296874 l=292969 r=294920 Step: 10 Your random guess between Left: 292969 Right: 294920 Middle : 294921

l=292969 r=293943 Step: 11 Your random guess between Left: 292969 Right: 293943 Middle : 293944

l=292969 r=293455 Step: 12 Your random guess between Left: 292969 Right: 293455 Middle : 293456

l=292969 r=293211 Step: 13 Your random guess between Left: 292969 Right: 293211 Middle : 293212

l=292969 r=293089 Step: 14 Your random guess between Left: 292969 Right: 293089 Middle : 293090

l=292969 r=293028 Step: 15 Your random guess between Left: 292969 Right: 293028 Middle : 293029

l=292969 r=292997 Step: 16 Your random guess between Left: 292969 Right: 292997 Middle : 292998

l=292984 r=292997 l=292991 r=292997 l=292995 r=292997 l=292997 r=292997 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=1 r=249999 Step: 3 Your random guess between Left: 1 Right: 249999 Middle : 250000

l=1 r=124999 Step: 4 Your random guess between Left: 1 Right: 124999 Middle : 125000

l=1 r=62499 Step: 5 Your random guess between Left: 1 Right: 62499 Middle : 62500

l=31251 r=62499 l=46876 r=62499 l=54688 r=62499 l=54688 r=58592 Step: 9 Your random guess between Left: 54688 Right: 58592 Middle : 58593

l=54688 r=56639 Step: 10 Your random guess between Left: 54688 Right: 56639 Middle : 56640

l=55664 r=56639 l=56152 r=56639 l=56152 r=56394 Step: 13 Your random guess between Left: 56152 Right: 56394 Middle : 56395

l=56274 r=56394 l=56274 r=56333 Step: 15 Your random guess between Left: 56274 Right: 56333 Middle : 56334

l=56304 r=56333 l=56304 r=56317 Step: 17 Your random guess between Left: 56304 Right: 56317 Middle : 56318

l=56304 r=56309 Step: 18 Your random guess between Left: 56304 Right: 56309 Middle : 56310

l=56307 r=56309 l=56307 r=56307 Step: 20 Your random guess between Left: 56307 Right: 56307 Middle : 56308

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=281251 r=312499 l=281251 r=296874 Step: 7 Your random guess between Left: 281251 Right: 296874 Middle : 296875

l=281251 r=289061 Step: 8 Your random guess between Left: 281251 Right: 289061 Middle : 289062

l=285157 r=289061 l=287110 r=289061 l=287110 r=288084 Step: 11 Your random guess between Left: 287110 Right: 288084 Middle : 288085

l=287598 r=288084 l=287842 r=288084 l=287964 r=288084 l=287964 r=288023 Step: 15 Your random guess between Left: 287964 Right: 288023 Middle : 288024

l=287994 r=288023 l=287994 r=288007 Step: 17 Your random guess between Left: 287994 Right: 288007 Middle : 288008

l=288001 r=288007 l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=250001 r=374999 Step: 4 Your random guess between Left: 250001 Right: 374999 Middle : 375000

l=250001 r=312499 Step: 5 Your random guess between Left: 250001 Right: 312499 Middle : 312500

l=281251 r=312499 l=296876 r=312499 l=296876 r=304686 Step: 8 Your random guess between Left: 296876 Right: 304686 Middle : 304687

l=296876 r=300780 Step: 9 Your random guess between Left: 296876 Right: 300780 Middle : 300781

l=298829 r=300780 l=298829 r=299803 Step: 11 Your random guess between Left: 298829 Right: 299803 Middle : 299804

l=298829 r=299315 Step: 12 Your random guess between Left: 298829 Right: 299315 Middle : 299316

l=299073 r=299315 l=299195 r=299315 l=299256 r=299315 l=299286 r=299315 l=299301 r=299315 l=299309 r=299315 l=299309 r=299311 Step: 19 Your random guess between Left: 299309 Right: 299311 Middle : 299312

l=299309 r=299309 Step: 20 Your random guess between Left: 299309 Right: 299309 Middle : 299310

l:1 r:1000000 l=1 r=499999 Step: 2 Your random guess between Left: 1 Right: 499999 Middle : 500000

l=250001 r=499999 l=375001 r=499999 l=437501 r=499999 l=437501 r=468749 Step: 6 Your random guess between Left: 437501 Right: 468749 Middle : 468750

l=437501 r=453124 Step: 7 Your random guess between Left: 437501 Right: 453124 Middle : 453125

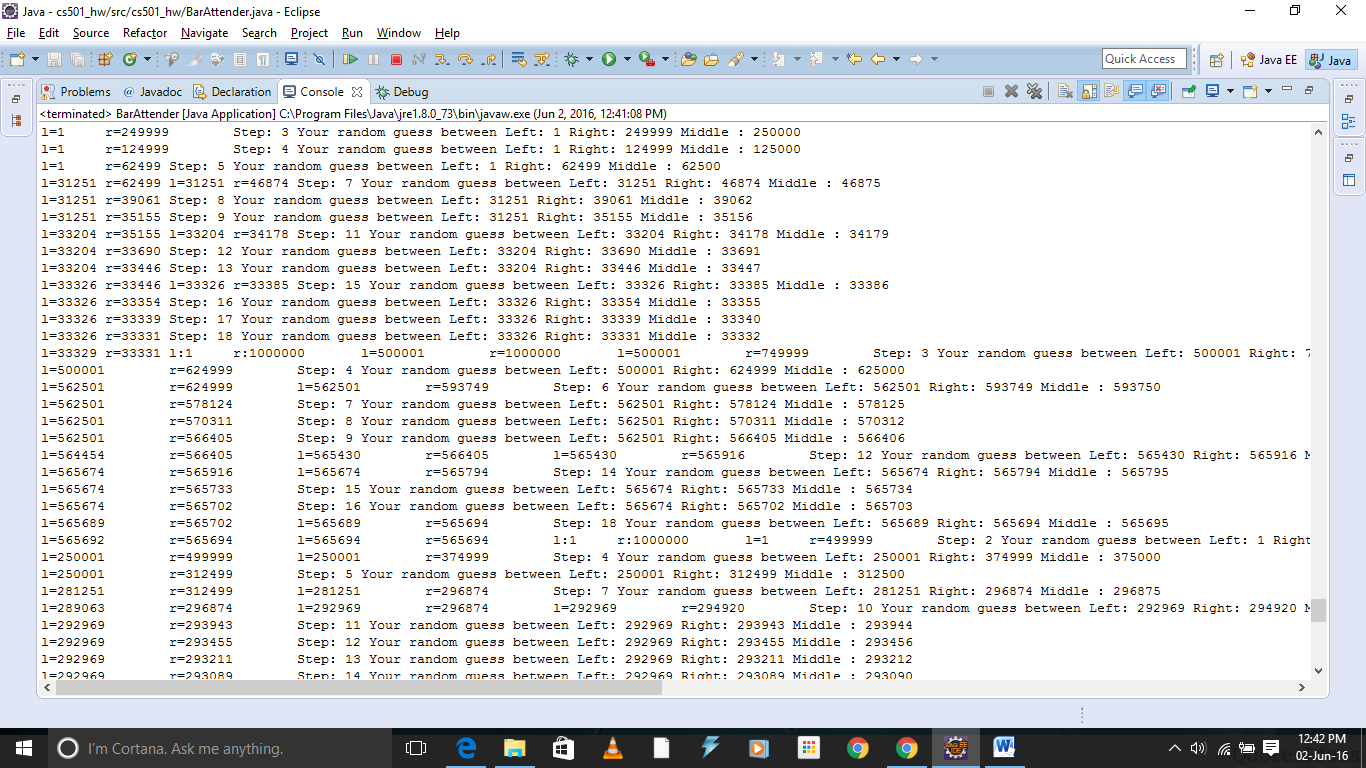
l=437501 r=445311 Step: 8 Your random guess between Left: 437501 Right: 445311 Middle : 445312

l=441407 r=445311 l=443360 r=445311 l=444336 r=445311 l=444824 r=445311 l=444824 r=445066 Step: 13 Your random guess between Left: 444824 Right: 445066 Middle : 445067

l=444946 r=445066 l=444946 r=445005 Step: 15 Your random guess between Left: 444946 Right: 445005 Middle : 445006

l=444976 r=445005 For numbers between 1 to 1000000 (random numbers) the min guess is 10 max guess is 20

DONE



Q.2 Truthtable.

**package** cs501\_hw;

**import** java.util.Scanner;

**public** **class** TruthTable {

**public** **static** **void** main (String args[]){

*printTruthTable*(1);

*printTruthTable*(2);

*printTruthTable*(3);

System.***out***.print("How many inputs do you want?");

Scanner scanner = **new** Scanner(System.***in***);

**int** k = scanner.nextInt();

*printTruthTable*(k);

}

**private** **static** **void** printTruthTable(**int** n) {

System.***out***.println("------------Truth table of " +

"" + n + " inputs function --------------");

**int** rows = (**int**) Math.*pow*(2, n);

**if** (n <= 3) {

**for** (**int** i = 0; i < rows; i++) {

**for** (**int** j = n - 1; j >= 0; j--) {

System.***out***.print((i / (**int**) Math.*pow*(2, j)) % 2 + " ");

}

System.***out***.println();

}

}

System.***out***.println("For " + n + " inputs, table size is " + rows);

System.***out***.println();

}

}

------------Truth table of 1 inputs function --------------

0

1

For 1 inputs, table size is 2

------------Truth table of 2 inputs function --------------

0 0

0 1

1 0

1 1

For 2 inputs, table size is 4

------------Truth table of 3 inputs function --------------

0 0 0

0 0 1

0 1 0

0 1 1

1 0 0

1 0 1

1 1 0

1 1 1

For 3 inputs, table size is 8

How many inputs do you want?14

------------Truth table of 14 inputs function --------------

For 14 inputs, table size is 16384

