1. 找出1~5000范围内分别满足如下条件的数:

(1) 7或11或13的倍数

(2) 7、11，或7、13或11、13的倍数

(3) 7、11和13倍数

**public** **class** Hello {

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

String a="7或11或13的倍数有 ";

String b="7、11，或7、13或11、13的倍数 ";

String c="7、11和13倍数 ";

**for** (**int** i = 7; i <= 5000; i++) {

**if** (i % 7 == 0 || i % 11 == 0 || i % 13 == 0) {

a+= i + ",";

}

**if** (i % (7\*11) == 0 || i % (7\*13) == 0 || i % (11\*13) == 0) {

b+= i + ",";

}

**if** (i % (7\*11\*13) == 0) {

c+= i + ",";

}

}

System.*out*.println(a);

System.*out*.println(b);

System.*out*.println(c);

}

}

7或11或13的倍数有 7,11,13,14,21,22,26,28,33,35,39,42,44,49,52,55,56,63,65,66,70,77,78,84,88,91,98,99,104,105,110,112,117,119,121,126,130,132,133,140,143,147,154,156,161,165,168,169,175,176,182,187,189,195,196,198,203,208,209,210,217,220,221,224,231,234,238,242,245,247,252,253,259,260,264,266,273,275,280,286,287,294,297,299,301,308,312,315,319,322,325,329,330,336,338,341,343,350,351,352,357,363,364,371,374,377,378,385,390,392,396,399,403,406,407,413,416,418,420,427,429,434,440,441,442,448,451,455,462,468,469,473,476,481,483,484,490,494,495,497,504,506,507,511,517,518,520,525,528,532,533,539,546,550,553,559,560,561,567,572,574,581,583,585,588,594,595,598,602,605,609,611,616,623,624,627,630,637,638,644,649,650,651,658,660,663,665,671,672,676,679,682,686,689,693,700,702,704,707,714,715,721,726,728,735,737,741,742,748,749,754,756,759,763,767,770,777,780,781,784,791,792,793,798,803,805,806,812,814,819,825,826,832,833,836,840,845,847,854,858,861,868,869,871,875,880,882,884,889,891,896,897,902,903,910,913,917,923,924,931,935,936,938,945,946,949,952,957,959,962,966,968,973,975,979,980,987,988,990,994,1001,1008,1012,1014,1015,1022,1023,1027,1029,1034,1036,1040,1043,1045,1050,1053,1056,1057,1064,1066,1067,1071,1078,1079,1085,1089,1092,1099,1100,1105,1106,1111,1113,1118,1120,1122,1127,1131,1133,1134,1141,1144,1148,1155,1157,1162,1166,1169,1170,1176,1177,1183,1188,1190,1196,1197,1199,1204,1209,1210,1211,1218,1221,1222,1225,1232,1235,1239,1243,1246,1248,1253,1254,1260,1261,1265,1267,1274,1276,1281,1287,1288,1295,1298,1300,1302,1309,1313,1316,1320,1323,1326,1330,1331,1337,1339,1342,1344,1351,1352,1353,1358,1364,1365,1372,1375,1378,1379,1386,1391,1393,1397,1400,1404,1407,1408,1414,1417,1419,1421,1428,1430,1435,1441,1442,1443,1449,1452,1456,1463,1469,1470,1474,1477,1482,1484,1485,1491,1495,1496,1498,1505,1507,1508,1512,1518,1519,1521,1526,1529,1533,1534,1540,1547,1551,1554,1560,1561,1562,1568,1573,1575,1582,1584,1586,1589,1595,1596,1599,1603,1606,1610,1612,1617,1624,1625,1628,1631,1638,1639,1645,1650,1651,1652,1659,1661,1664,1666,1672,1673,1677,1680,1683,1687,1690,1694,1701,1703,1705,1708,1715,1716,1722,1727,1729,1736,1738,1742,1743,1749,1750,1755,1757,1760,1764,1768,1771,1778,1781,1782,1785,1792,1793,1794,1799,1804,1806,1807,1813,1815,1820,1826,1827,1833,1834,1837,1841,1846,1848,1855,1859,1862,1869,1870,1872,1876,1881,1883,1885,1890,1892,1897,1898,1903,1904,1911,1914,1918,1924,1925,1932,1936,1937,1939,1946,1947,1950,1953,1958,1960,1963,1967,1969,1974,1976,1980,1981,1988,1989,1991,1995,2002,2009,2013,2015,2016,2023,2024,2028,2030,2035,2037,2041,2044,2046,2051,2054,2057,2058,2065,2067,2068,2072,2079,2080,2086,2090,2093,2100,2101,2106,2107,2112,2114,2119,2121,2123,2128,2132,2134,2135,2142,2145,2149,2156,2158,2163,2167,2170,2171,2177,2178,2184,2189,2191,2197,2198,2200,2205,2210,2211,2212,2219,2222,2223,2226,2233,2236,2240,2244,2247,2249,2254,2255,2261,2262,2266,2268,2275,2277,2282,2288,2289,2296,2299,2301,2303,2310,2314,2317,2321,2324,2327,2331,2332,2338,2340,2343,2345,2352,2353,2354,2359,2365,2366,2373,2376,2379,2380,2387,2392,2394,2398,2401,2405,2408,2409,2415,2418,2420,2422,2429,2431,2436,2442,2443,2444,2450,2453,2457,2464,2470,2471,2475,2478,2483,2485,2486,2492,2496,2497,2499,2506,2508,2509,2513,2519,2520,2522,2527,2530,2534,2535,2541,2548,2552,2555,2561,2562,2563,2569,2574,2576,2583,2585,2587,2590,2596,2597,2600,2604,2607,2611,2613,2618,2625,2626,2629,2632,2639,2640,2646,2651,2652,2653,2660,2662,2665,2667,2673,2674,2678,2681,2684,2688,2691,2695,2702,2704,2706,2709,2716,2717,2723,2728,2730,2737,2739,2743,2744,2750,2751,2756,2758,2761,2765,2769,2772,2779,2782,2783,2786,2793,2794,2795,2800,2805,2807,2808,2814,2816,2821,2827,2828,2834,2835,2838,2842,2847,2849,2856,2860,2863,2870,2871,2873,2877,2882,2884,2886,2891,2893,2898,2899,2904,2905,2912,2915,2919,2925,2926,2933,2937,2938,2940,2947,2948,2951,2954,2959,2961,2964,2968,2970,2975,2977,2981,2982,2989,2990,2992,2996,3003,3010,3014,3016,3017,3024,3025,3029,3031,3036,3038,3042,3045,3047,3052,3055,3058,3059,3066,3068,3069,3073,3080,3081,3087,3091,3094,3101,3102,3107,3108,3113,3115,3120,3122,3124,3129,3133,3135,3136,3143,3146,3150,3157,3159,3164,3168,3171,3172,3178,3179,3185,3190,3192,3198,3199,3201,3206,3211,3212,3213,3220,3223,3224,3227,3234,3237,3241,3245,3248,3250,3255,3256,3262,3263,3267,3269,3276,3278,3283,3289,3290,3297,3300,3302,3304,3311,3315,3318,3322,3325,3328,3332,3333,3339,3341,3344,3346,3353,3354,3355,3360,3366,3367,3374,3377,3380,3381,3388,3393,3395,3399,3402,3406,3409,3410,3416,3419,3421,3423,3430,3432,3437,3443,3444,3445,3451,3454,3458,3465,3471,3472,3476,3479,3484,3486,3487,3493,3497,3498,3500,3507,3509,3510,3514,3520,3521,3523,3528,3531,3535,3536,3542,3549,3553,3556,3562,3563,3564,3570,3575,3577,3584,3586,3588,3591,3597,3598,3601,3605,3608,3612,3614,3619,3626,3627,3630,3633,3640,3641,3647,3652,3653,3654,3661,3663,3666,3668,3674,3675,3679,3682,3685,3689,3692,3696,3703,3705,3707,3710,3717,3718,3724,3729,3731,3738,3740,3744,3745,3751,3752,3757,3759,3762,3766,3770,3773,3780,3783,3784,3787,3794,3795,3796,3801,3806,3808,3809,3815,3817,3822,3828,3829,3835,3836,3839,3843,3848,3850,3857,3861,3864,3871,3872,3874,3878,3883,3885,3887,3892,3894,3899,3900,3905,3906,3913,3916,3920,3926,3927,3934,3938,3939,3941,3948,3949,3952,3955,3960,3962,3965,3969,3971,3976,3978,3982,3983,3990,3991,3993,3997,4004,4011,4015,4017,4018,4025,4026,4030,4032,4037,4039,4043,4046,4048,4053,4056,4059,4060,4067,4069,4070,4074,4081,4082,4088,4092,4095,4102,4103,4108,4109,4114,4116,4121,4123,4125,4130,4134,4136,4137,4144,4147,4151,4158,4160,4165,4169,4172,4173,4179,4180,4186,4191,4193,4199,4200,4202,4207,4212,4213,4214,4221,4224,4225,4228,4235,4238,4242,4246,4249,4251,4256,4257,4263,4264,4268,4270,4277,4279,4284,4290,4291,4298,4301,4303,4305,4312,4316,4319,4323,4326,4329,4333,4334,4340,4342,4345,4347,4354,4355,4356,4361,4367,4368,4375,4378,4381,4382,4389,4394,4396,4400,4403,4407,4410,4411,4417,4420,4422,4424,4431,4433,4438,4444,4445,4446,4452,4455,4459,4466,4472,4473,4477,4480,4485,4487,4488,4494,4498,4499,4501,4508,4510,4511,4515,4521,4522,4524,4529,4532,4536,4537,4543,4550,4554,4557,4563,4564,4565,4571,4576,4578,4585,4587,4589,4592,4598,4599,4602,4606,4609,4613,4615,4620,4627,4628,4631,4634,4641,4642,4648,4653,4654,4655,4662,4664,4667,4669,4675,4676,4680,4683,4686,4690,4693,4697,4704,4706,4708,4711,4718,4719,4725,4730,4732,4739,4741,4745,4746,4752,4753,4758,4760,4763,4767,4771,4774,4781,4784,4785,4788,4795,4796,4797,4802,4807,4809,4810,4816,4818,4823,4829,4830,4836,4837,4840,4844,4849,4851,4858,4862,4865,4872,4873,4875,4879,4884,4886,4888,4893,4895,4900,4901,4906,4907,4914,4917,4921,4927,4928,4935,4939,4940,4942,4949,4950,4953,4956,4961,4963,4966,4970,4972,4977,4979,4983,4984,4991,4992,4994,4998,

7、11，或7、13或11、13的倍数 77,91,143,154,182,231,273,286,308,364,385,429,455,462,539,546,572,616,637,693,715,728,770,819,847,858,910,924,1001,1078,1092,1144,1155,1183,1232,1274,1287,1309,1365,1386,1430,1456,1463,1540,1547,1573,1617,1638,1694,1716,1729,1771,1820,1848,1859,1911,1925,2002,2079,2093,2145,2156,2184,2233,2275,2288,2310,2366,2387,2431,2457,2464,2541,2548,2574,2618,2639,2695,2717,2730,2772,2821,2849,2860,2912,2926,3003,3080,3094,3146,3157,3185,3234,3276,3289,3311,3367,3388,3432,3458,3465,3542,3549,3575,3619,3640,3696,3718,3731,3773,3822,3850,3861,3913,3927,4004,4081,4095,4147,4158,4186,4235,4277,4290,4312,4368,4389,4433,4459,4466,4543,4550,4576,4620,4641,4697,4719,4732,4774,4823,4851,4862,4914,4928,

7、11和13倍数 1001,2002,3003,4004,

2. 计算: y=3\*1!/1+3^2\*2!/2^2+3^3\*3!/3^3+...+3^n\*n!/n^n。

**import** java.util.Scanner;

**public** **class** cal {

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

**int** n = 0;

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

System.*out*.print("请输入一个n：");

n = sc.nextInt();

**double** sum = 0;

**for** (**int** j = 1; j <= n; j++) {

sum += Math.*pow*(3.0, j) \* *factorial*(j) / (Math.*pow*(j, j));

}

System.*out*.println("3\*1!/1+3^2\*2!/2^2+3^3\*3!/3^3+...+3^n\*n!/n^n="

+ sum);

}

**public** **static** **int** factorial(**int** a) {

**if** (a <= 1) {

**return** 1;

} **else** {

**return** *factorial*(a - 1) \* a;

}

}

}

请输入一个n：2

3\*1!/1+3^2\*2!/2^2+3^3\*3!/3^3+...+3^n\*n!/n^n=7.5

3. 输出以下字符图形，比如，当n=6时，结果如下：

1

2 2 2

3 3 3 3 3

4 4 4 4 4 4

5 5 5 5

6 6

**import** java.util.Scanner;

**public** **class** beautyprint {

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

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

System.*out*.print("请输入一个数：");

**int** n = sc.nextInt();

**int** former = n/2;

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

String s="";

s+=*repeat*(" ", (former-i-1)\*2)+*repeat*(" "+(i+1), 2\*i+1);

System.*out*.println(s);

}

**int** last = n-former;

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

String s="";

s+=*repeat*(" ", i) + *repeat*((former+i+1)+" ", 2\*(last-i));

System.*out*.println(s);

}

}

**public** **static** String repeat(String a, **int** n){

String ret = "";

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

ret+=a;

}

**return** ret;

}

}

请输入一个数：6

1

2 2 2

3 3 3 3 3

4 4 4 4 4 4

5 5 5 5

6 6

4. 定义复数类，包括实部和虚部变量、构造方法、

加减乘除方法、求绝对值方法和显示方法。

**package** compute;

**public** **class** Fraction {

**public** **int** numerator;

**public** **int** denominator;

**public** Fraction() {

**this**.numerator = 0;

**this**.denominator = 1;

}

**public** Fraction(**int** a, **int** b) {

**if** (b == 0) {

System.*out*.print("error");

{

b = 1;

}

}

**this**.numerator = a;

**this**.denominator = b;

}

**public** Fraction add(Fraction a) {

Fraction temp = **new** Fraction();

temp.numerator = **this**.denominator \* a.numerator + **this**.numerator \* a.denominator;

temp.denominator = **this**.denominator \* a.denominator;

**return** temp;

}

**public** Fraction sub(Fraction a) {

Fraction temp = **new** Fraction();

temp.numerator = **this**.numerator \* a.denominator - **this**.denominator \* a.numerator;

temp.denominator = **this**.denominator \* a.denominator;

**return** temp;

}

**public** Fraction mul(Fraction a) {

Fraction temp = **new** Fraction();

temp.numerator = **this**.numerator \* a.numerator;

temp.denominator = **this**.denominator \* a.denominator;

**return** temp;

}

**public** Fraction div(Fraction a) {

Fraction temp = **new** Fraction();

temp.numerator = **this**.numerator \* a.denominator;

temp.denominator = **this**.denominator \* a.numerator;

**return** temp;

}

**public** **void** print() {

**if** (**this**.denominator < 0){

System.*out*.print((-**this**.numerator) + "/" + (-**this**.denominator));

}

**else**{

System.*out*.print(**this**.numerator + "/" + **this**.denominator);

}

System.*out*.println();

}

**public** Fraction sim() {

Fraction temp = **new** Fraction(1, 1);

**int** m = mutual(**this**.numerator, **this**.denominator);

temp.numerator = **this**.numerator / m;

temp.denominator = **this**.denominator / m;

**return** temp;

}

**private** **int** mutual(**int** a, **int** b) {

**int** temp = 0;

**if** (a > b) {

**while** (a % b != 0) {

temp = a % b;

a = b;

b = temp;

}

**return** b;

} **else** {

**return** mutual(b, a);

}

}

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

Fraction a = **new** Fraction(3, 8);

Fraction b = **new** Fraction(2, 3);

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

a.print();

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

b.print();

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

a.add(b).print();

a.add(b).sim().print();

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

a.sub(b).print();

a.sub(b).sim().print();

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

a.div(b).print();

a.div(b).sim().print();

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

a.mul(b).print();

a.mul(b).sim().print();

}

}

a

3/8

b

2/3

add

25/24

25/24

sub

-7/24

-7/24

div

9/16

9/16

mul

6/24

1/4