

# Algorithms

## Uva OJ

**Mostafa S. Ibrahim**

*Teaching, Training and Coaching for more than a decade!*

*Artificial Intelligence & Computer Vision Researcher*

*PhD from Simon Fraser University - Canada*

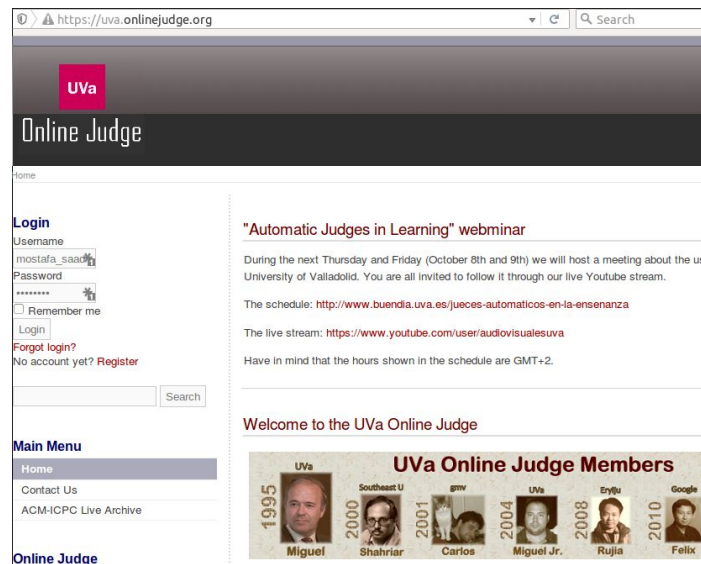
*Bachelor / Msc from Cairo University - Egypt*

*Ex-(Software Engineer / ICPC World Finalist)*



# Uva OJ

- Uva is identical to SPOJ, but has many old great problems
- Site Technical issues
  - Registering for a course can be complicated in the course
  - The login can be a little problematic. Usually you need to remove some cookies. [See](#)
  - You may get security warnings when logging in
- Quality
  - Many great problems, but many people hate the OJ
  - Lengthy text. Sometimes tricks are hidden in the text
  - Presentation errors due to extra blank lines or spaces



# Menu

- Quick Submit
  - Fast submission without open problem
- Electronic Board: Qs Forum
- My uHint: External tool
- Search utility
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## Online Judge

Quick Submit

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My Statistics

My uHint with Virtual Contest Service

Browse Problems

Quick access, info and search

Problemsetters' Credits

Live Rankings

Site Statistics

Contests

Electronic Board

Additional Information

Other Links

### Contests

- Running contests
- Coming contests
- Past contests
- Contest ranking

# Problems List

	Problem Set Volumes (100...1999)
	Contest Volumes (10000...)
	Prominent Problemsetters
	ACM-ICPC World Finals
	ACM-ICPC Dhaka Site Regional Contests
	Western and Southwestern European Regionals
	Programming Challenges (Skiena & Revilla)
	Rujia Liu's Presents
	AOAPC I: Beginning Algorithm Contests (Rujia Liu)
	AOAPC I: Beginning Algorithm Contests -- Training Guide (Rujia Liu)
	AOAPC II: Beginning Algorithm Contests (Second Edition) (Rujia Liu)
	Competitive Programming: Increasing the Lower Bound of Programming Contests (Steven & Felix Halim)
	Competitive Programming 2: This increases the lower bound of Programming Contests. Again (Steven & Felix Halim)
	Competitive Programming 3: The New Lower Bound of Programming Contests (Steven & Felix Halim)

	Volume 1 (100-199)
	Volume 2 (200-299)
	Volume 3 (300-399)
	Volume 4 (400-499)
	Volume 5 (500-599)
	Volume 6 (600-699)
	Volume 7 (700-799)
	Volume 8 (800-899)
	Volume 9 (900-999)
	Volume 10 (1000-1099)
	Volume 11 (1100-1199)
	Volume 12 (1200-1299)
	Volume 13 (1300-1399)
	Volume 14 (1400-1499)
	Volume 15 (1500-1599)
	Volume 16 (1600-1699)
	Volume 17 (1700-1799)

		100 - The $3n + 1$ problem
		101 - The Blocks Problem
		102 - Ecological Bin Packing
		103 - Stacking Boxes
		104 - Arbitrage
		105 - The Skyline Problem
		106 - Fermat vs. Pythagoras
		107 - The Cat in the Hat
		108 - Maximum Sum
		109 - SCUD Busters
		110 - Meta-Loopless Sorts
		111 - History Grading

For faster browsing, you may use <https://uva.onlinejudge.org/external/>

# Quick Submit

## Quick Submit

Problem ID

100 

Language

- ☐ ANSI C 4.8.2 - GNU C Compiler with options: -lm -lcrypt -O2 -pipe -ansi -DONLINE\_JUDGE
- ☐ JAVA 1.7.0 - Java Sun JDK
- ☐ C++ 4.8.2 - GNU C++ Compiler with options: -lm -lcrypt -O2 -pipe -DONLINE\_JUDGE
- ☐ PASCAL 2.6.2 - Free Pascal Compiler
- ☒ C++11 4.8.2 - GNU C++ Compiler with options: -lm -lcrypt -O2 -std=c++11 -pipe -DONLINE\_JUDGE

Paste your code...

```
int main()
{
    int s, e, i, temp, max;

    while(cin>>s>>e)
    {
        cout<<s<<" "<<e<<" ";

        if(s > e)
            temp = s, s = e, e = temp;
```

# Forums

<https://uva.onlinejudge.org/board/index.php>



**UVa OJ Board**  
The UVa Online Judge board

Quick links FAQ

Board index

## REAL TIME CONTESTS AND LAST MINUTE INFORMATION

### General

General topic about Valladolid Online Judge

**Moderator:** Board moderators

### Real Time Clarification

This board is read/only, and you will be able to read the possible clarifications of the run-time clarification request, please send an email to the organizer of the contest (NOT to the Judge). There is no contest defined at this time. This board will become active when a contest is



site:uva.onlinejudge.org 3n+1 problem

Web

Videos

Images

News

Maps

M

About 272 results (0.56 seconds)

**The 3n + 1 problem - UVa Online Judge - A**

<https://uva.onlinejudge.org/index.php?...8...problem&p>

Background. **Problems** in Computer Science are often classified into certain class of **problems** (e.g., NP, Unsolvable, Recursive)

**100 - The 3n + 1 problem - Page 92 - UVa (**

[uva.onlinejudge.org](https://uva.onlinejudge.org) > ... > [Help on the Problemset](#) > Vol

Jun 27, 2014 - I solved the **3n+1 problem** with two methods: limit exceeded. The other is set a cache[] array to save the

**Volume 1 (100-199) - UVa Online Judge - A**

[https://uva.onlinejudge.org/index.php?option=com\\_onli](https://uva.onlinejudge.org/index.php?option=com_onli)

Results 1 - 100 of 100 - 100 - The 3n + 1 problem, 664825.



# UVA: [uhunt](#): compare

- uHunt, a tool developed by **Felix Halim**, the brother of Steven Halim, the author of Competitive Programming books

The available operators are: union **+**, subtraction **-**, intersection **&**, and brackets **()** to force operator precedence.

Expression:

\*

Compare

Clear

**Result of *mohammadkotb* & *mostafa\_saad* : (226 items)**

100 103 105 108 109 111 113 116 124 147 148 154 155 156 160 164 167 184 190 191 193 195 200 202 218 231 259 260 263 270 272 273 275 294 315 324 337 357 369 374 378 383 389 401 408 409 417 424 438 439 441 446 459 460 469 476 477 478 481 483 488 495 497 507 530 531 534 536 542 543 544 558 562 566 586 627 637 763 784 793 796 820 821 825 836 866 884 10003 10004 10006 10009 10018 10034 10036 10041 10048 10055 10065 10066 10071 10074 10077 10109 10112 10130 10139 10147 10168 10176 10178 10179 10183 10189 10192 10195 10199 10220 10229 10242 10245 10263 10276 10281 10298 10299 10330 10334 10336 10337 10340 10344 10346 10369 10394 10397 10405 10420 10432 10450 10462 10465 10473 10480 10494 10496 10533 10534 10551 10667 10679 10684 10699 10703 10780 10783 10784 10790 10803 10812 10814 10820 10842 10892 10905 10918 10921 10924 10926 10940 10945 10946 11231 11235 11341 11345 11388 11417 11473 11475 11503 11506 11512 11517 11572

UVA: [uhunt](#):  
view user

Your UVA username:  \*

Search Problem Number:  \*

[View Live Submissions](#)

mostafa saad ibrahim (mostafa\_

Progress over the Years

Year	Progress
06	~10
07	~150
08	~250
09	~350
10	~450
11	516
12	516
13	516
14	516
15	516

Submissions Statistics

Verdict	Count
AC	1148
PE	189
WA	1598
TL	397
ML	58
CE	520
RE	321
OT	82

Last Submissions

Problem	Verdict
108 - Maximum Sum	Accepted
108 - Maximum Sum	Accepted
108 - Maximum Sum	Compile error
100 - The 3n + 1 problem	Accepted
111 - History Grading	Accepted

Solved : 516, Submissions : 4313

100 101 102 103 104 105 106 107 108 109 111 112 113 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 144 146 147 148 151 153 154 155 156 160 164 167 180 183 184 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 263 264 270 271 272 273 275 280 290 291 294 299 302 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 362 369 371 374 378 382 383 386 389 400 401 406 408 409 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 464 465 466 469 471 476 477 478 481 483 486 488 492 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 541 542 543 544 558 562 568 571 572 575 579 583 588 591 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 684 686 694 699 706 713 719 727 732 737 755 757 759 763 776 784 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 889 895 897 898 10000 10002 10003 10004 10006 10007 10008 10009 10010 10011 10012 10013 10014 10015 10016 10017 10018 10019 10020 10021 10022 10023 10024 10025 10026 10027 10028 10029 10030 10031 10032 10033 10034 10035 10036 10037 10038 10041 10042 10048 10054 10055 10062 10065 10066 10071 10074



# Hints and books by [Steven Halim](#)

## Competitive Programming Exercises



[FB Page](#) | [Info](#) | [Buy](#)  
Edition: **1st**, **2nd**, **3rd**

[Steven Halim](#) and I published the [Competitive Programming](#) book which is targetted to help regular computer science students to quickly get up and running for the [ACM ICPC](#) as well as [IOI](#). The book discusses the types of problems that are frequently occurs in programming contests. The exercises have been integrated to this uHunt tool so that you can keep track of your progress. To get started, select a chapter from the table on the right. Each chapter has starred problems (i.e., a must try problem). Happy solving :)



### 3rd Edition's Exercises (switch to: [1st](#), [2nd](#), [3rd](#))

Book Chapters	Starred ★	ALL
1. Introduction	<div><div></div></div> 23%	<div><div></div></div> 17%
2. Data Structures and Libraries	<div><div></div></div> 29%	<div><div></div></div> 23%
3. Problem Solving Paradigms	<div><div></div></div> 24%	<div><div></div></div> 25%
4. Graph	<div><div></div></div> 31%	<div><div></div></div> 32%
5. Mathematics	<div><div></div></div> 42%	<div><div></div></div> 36%
6. String Processing	<div><div></div></div> 30%	<div><div></div></div> 32%
7. (Computational) Geometry	<div><div></div></div> 16%	<div><div></div></div> 30%
8. More Advanced Topics	<div><div></div></div> 7%	<div><div></div></div> 10%
9. Rare Topics	<div><div></div></div> 29%	<div><div></div></div> 32%

### Ad Hoc Mathematics Problems (12/33 = 36%)

#### The Simpler Ones (0/3)

10773 - Back to Intermediate ...	★🔴	<a href="#">discuss</a>	Lev 3	--- ? ---
11723 - Numbering Roads	★🔴	<a href="#">discuss</a>	Lev 3	--- ? ---
11875 - Brick Game	★🔴	<a href="#">discuss</a>	Lev 2	--- ? ---

#### Mathematical Simulation (Brute Force), easier (2/3)

<a href="#">382</a> - Perfection	★🔴	<a href="#">discuss</a>	Lev 1	✓ <b>0.002s/3112</b>
1225 - Digit Counting	★🔴	<a href="#">discuss</a>	Lev 2	--- ? ---
<b>10346</b> - Peter's Smokes	★🔴	<a href="#">discuss</a>	Lev 1	✓ <b>0.000s/1488</b>

### Java BigInteger Class (5/12 = 41%)

#### Basic Features (1/3)

<a href="#">713</a> - Adding Reversed Num...	★🔴	<a href="#">discuss</a>	Lev 2	✓ <b>0.008s/2361(6)</b>
10523 - Very Easy !!!	★🔴	<a href="#">discuss</a>	Lev 3	--- ? ---
11879 - Multiple of 17	★🔴	<a href="#">discuss</a>	Lev 3	--- ? ---

#### Bonus Features: Base Number Conversion (3/3)

<a href="#">343</a> - What Base Is This?	★🔴	<a href="#">discuss</a>	Lev 3	✓ <b>0.092s/1177(1)</b>
<a href="#">389</a> - Basically Speaking	★🔴	<a href="#">discuss</a>	Lev 2	✓ <b>1.990s/3077(11)</b>
10551 - Basic Remains	★🔴	<a href="#">discuss</a>	Lev 3	✓ <b>0.049s/787</b>

*“Acquire knowledge and impart it to the people.”*

*“Seek knowledge from the Cradle to the Grave.”*