

## THE SECOND QUALIFYING TOUR OF THE ICPC-UKRAINE-2021 CONTEST REPORT

October 16th 2021 the second qualifying tour of the ICPC-Ukraine 2021 Contest took place where 224 university and college teams and 59 high school teams participated. The contest was conducted online on six super regional sites in the format accepted for SEERC-2021. Unfortunately during the third hour of the contest happened a massive DDos attack which was impossible to stop. Because of that the remaining three hours of the contest the teams were solving problems without the ability to test their solutions. At the five hour mark the solutions of all teams were sent to the judges for testing. Problems that successfully solved during the manual check received a 220 point penalty. The lack of ability to instantly test solutions during the remaining three hours of the contest led to the low rates of correct solutions, with many teams unable to correctly solve a single problem.

The winners of the university competitions are:

1. KhNURE\_Energy is not over, Kharkiv National University of Radio Electronics, 11 solved problems
2. KNU\_0\_GB\_RAM, Taras Shevchenko Kyiv National University, 10 solved problems
3. LNU\_Bulldogsm, Ivan Franko Lviv National University, 9 solved problems
4. KNU\_Duplee, Taras Shevchenko Kyiv National University, 8 solved problems
5. KNU\_TheNextLevelPlay, Taras Shevchenko Kyiv National University, 7 solved problems
6. KhNU\_OtVinta, V.N. KarazinKharkiv National University, 7 solved problems

The winners of the School Divisions are:

1. sPolit-1, Poltava Regional Scientific Boarding Lyceum of II-III degree at Kremenchuk Pedagogical College named after A.S. Makarenko, 8 solved problems
2. s\_KPNL\_Sho,
3. sPNTL\_1, Podilsky scientific and technical lyceum, 5 solved problems
4. s\_KhmelnyskyLiceum17-ALGO-1, Khmelnysky Liceum №17, 5 solved problems
5. s\_LPML\_Beavers, Lviv physics mathematical lyceum, 5 solved problems
6. s\_Lutsk-Olymp, Volyn Institute of Postgraduate Pedagogical Education, 4 solved problems

### Results of the ICPC-UKRAINE-2021 Contest at Super Regional Sites

#### THE UKRAINE EASTERN SUPER REGION SITE

(Kharkiv Region, Luhansk Region)

Teams: 30

Universities: 10

School Division teams: 8

Cities: 3

Teams were suggested to solve 11 problems, the teams results are given in Table

Problem	A	B	C	D	E	F	G	H	I	J	K
Total	11	23	81	12	24	1	20	23	4	1	53
Success	1	13	11	4	5	1	7	2	3	1	21
%:	9,09	56,52	13,58	33,33	20,83	100,0	35,00	8,70	75,00	100,0	39,62

The problems were very difficult for the skill level of many participants of the ICPC second stage. Only 5 student teams (16,7%) solved 5 and more tasks. Most student teams (53,3%) solved 4 and less tasks. 9 student teams (30%) solved 0 tasks.

This table shows the number of student teams grouped according to the number of solved problems:

Problems	11	10	9	8	7	6	5	4	3	2	1	0	Total
Teams	1	0	0	0	1	2	1	2	4	4	6	9	30

Region Site winners have become such teams:

Rank	Team	University	Total online	Total off line	Total full-time	Total penalty
1	KhNURE_Energy is not over	Kharkiv National University of Radio Electronics	8	3	11	1125
2	KhNU_OtVinta	V.N. KarazinKharkiv National University	5	2	7	912
3	KhNURE_Lacrimosa	Kharkiv National University of Radio Electronics	6	0	6	552
4	KhNURE_Who?	Kharkiv National University of Radio Electronics	4	2	6	785

5	KhNURE_ RandomPeople	Kharkiv National University of Radio Electronics	4	1	5	664
6	KhPI_PI_PU_PU	National Technical University "Kharkiv Polytechnic Institute"	4	0	4	516

We are grateful to our sponsors, which have made this contest unforgettable. This year our sponsors of the Ukraine Eastern region Contest were:

NIX Solutions Ltd. (<http://www.nixsolutions.com>) and Sigma Software (<https://sigma.software>)

Our sponsors have awarded the teams that won the first three places by prizes. The total prize fund was 10 000 UAH.

### THE UKRAINE SOUTHERN SUPER REGION SITE

(Autonomous Republic of Crimea, Kherson Region, Mykolaiv Region, Odesa Region, Zaporizhzhya Region):

Site: Admiral Makarov National University of Shipbuilding)

Teams: 41

Universities: 20

School Division teams: 6

Cities: 7

Contestant kit included a file with a copybook and a pen, advertisements of event sponsors and bottled water.

The problem set consisted of 11 tasks of different complexity levels.

The region level (distribution of quantity of tasks solved) is shown in the Table

Problems	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>Total</b>
Teams	0	0	0	0	0	0	0	3	3	3	11	21	41

The winners of the Ukraine Southern Super Region are in the Table:

Rank	Team	University	Total online	Total off Line	Total full-time	Total penalty
1	ONU_PRIMATES	Odesa I. I. Mechnikov National University	3	1	4	406
2	ONU_Wrong_Answer	Odesa I. I. Mechnikov National University	3	1	4	495
3	BSNU_TopSquad_Reborn	Odesa I. I. Mechnikov National University	3	1	4	532
4	ONU_CROWS	Odesa I. I. Mechnikov National University	3	0	3	209
5	NUZP_Question_Mark	National University "Zaporizhzhia Polytechnic"	2	1	3	332
6	OPSU_Rabotyagi	Odesa Polytechnic State University	1	2	3	593

School Division Winners:

Rank	Team	City	Solved	Time
1	sBSS16_Zaporizhzhia_SVG	Berdyansk	2	132
2	sRL_UTFG	Odesa	2	342
3	sRL_pied_piper	Odesa	1	260
4	sKSS30_BtW	Kherson	1	300

Event sponsors of the Southern region are: TrackEnsure ([trackensure.com](http://trackensure.com)) and ArtPort ([artport.pro](http://artport.pro)).

### THE UKRAINE SOUTHWESTERN SUPER REGION SITE

(Chernivtsi region, Khmelnytskyi region, Ternopil region, Vinnytsia region):

Site: Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University

Teams: 38

Universities: 17

School Division teams: 14

Cities: 6

The problem set consisted of 11 tasks of different complexity levels.

The distribution of solved/unsolved tasks is shown in the Table

Task#Try#Success	A	B	C	D	E	F	G	H	I	J	K
Total:	13	14	208	4	8	0	18	27	1	0	137
Success:	1	5	6	0	2	0	2	0	0	0	29
%:	8	36	3	0	25	0	11	0	0	0	29

The region level (distribution of quantity of tasks solved) is shown in the Table.

Problems	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>Total</b>
Teams	0	0	0	0	0	0	2	0	2	4	21	23	52

The winners of Ukraine Southwestern Super Region Site are in the Table 3:

Rank	Team	University	Total online	Total off Line	Total full-time	Total penalty
1	VNTU_Platinum	Vinnitsia National Technical University	2	0	2	134
2	VNTU_Meme_Lords	Vinnitsia National Technical University	2	0	2	142
3	cKhmPC_Synapses	Khmelnitsky Polytechnic College	1	1	2	304
4	CHNU_FMI_Destroyers	Yuriy Fed'kovijch Chernivtsi National University	1	1	2	390
5	TNTU_DungeonMasters	Ternopil Ivan Pul'uj National Technical University	1	0	1	31
6	KhNU_KIIS_Dead_Inside	Khmelnitsky National University	1	0	1	64
7	ChNU_FMI_PurCharm	Yuriy Fed'kovijch Chernivtsi National University	1	0	1	91

School Division Winners:

Rank	Team	High school	Solved	Time
1	sPNTL_1	Podilsky scientific and technical lyceum	5	586
2	s_KhmelnitskyLiceum17-ALGO-1	Khmelnitsky Liceum №17	5	598
3	s_KhmelnitskyNVK4-ALGO-2	Khmelnitsky NVK#4	3	214
4	s_VPML17_Grizzly	Vinnitsia Physics and Mathematics lyceum #17	3	393
5	s_KhmelnitskyGymnasium№1-ALGO-3-OnlyGirls	Khmelnitsky Gymnasium №1 named after Volodymyr Krasyt'sky	1	35
6	s_VFML17_vinnitsia_Black_perl	Vinnitsia Physics and Mathematics lyceum #17	1	76

The distribution of solved/unsolved tasks is shown in the Table .

Task\#Try\#Success	A	B	C	D	E	F	G	H	I	J	K
Total:	3	8	23	2	7	0	11	10	1	0	25
Success:	1	4	3	0	2	0	2	0	0	0	11

The region level (distribution of quantity of tasks solved) is shown in the Table

Problems	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>Total</b>
Teams	0	0	0	0	0	0	2	0	2	0	7	3	14

### THE UKRAINE WESTERN SUPER REGION SITE

(Volyn region, Transcarpathian region, Ivano-Frankivsk region, Lviv region, Rivne region)

Site: Ivan Franko Lviv National University

Teams: 40

Universities: 22

School Division teams: 9

Cities: 10

The problem set consisted of 11 tasks of different complexity levels. There were no appeals concerning the conditions or test objectives from the teams during the Contest and after their completion.

The distribution of solved/unsolved tasks is shown in the Table

Task\#Try\#Success	A	B	C	D	E	F	G	H	I	J	K	Total
Success:	1	15	10	2	5	0	4	1	1	0	21	60
Total:	13	28	149	17	15	1	26	25	5	0	44	323
%:	8%	54%	7%	12%	33%	0%	15%	4%	20%		48%	19%

The region level (distribution of quantity of tasks solved) is shown in the Table:.

Problems	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>Total</b>
Teams	0	0	1	0	0	0	2	2	6	4	7	18	40

The winners of Ukraine Western super region site are in the Table 3:

Rank	Team	University	Total online	Total off Line	Total full-time	Total penalty
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1	LNU Bulldogs	Ivan Franko Lviv National University	7	2	9	1082
2	LNU 7beers4us	Ivan Franko Lviv National University	4	1	5	543
3	LNU dyki levy	Ivan Franko Lviv National University	2	3	5	735
4	NULP_Hope	National University "Lviv Politecnica"	3	1	4	463
5	NULP_Dezhavyu	National University "Lviv Politecnica"	2	2	4	693
6	UzhNU_Auturismo	Uzhgorod National University	3	0	3	248

Winners of the School Division:

Rank	Team	University	Solved	Time
1	s_LPML_Beavers	Lviv physics mathematical liceum	5	10152
2	s_Lutsk-Olymp	Volyn Institute of Postgraduate Pedagogical Education	4	329
3	sRLBR_ALGO34	Rohatyn liceum	4	5366
4	sUzh_Last_attemp	Ushgorod school	2	190
5	sUzh_Cucumbers	Ushgorod school	2	311
6	sPhTL_DevMops	Ivano-Frankivsk phisics technological liceum	1	63

We are grateful to our sponsors, which have made this contest unforgettable. The companies [Sigma Software](#), [DataArt](#) and [Leobit](#) provided prizes for winners.

### THE UKRAINE NOTHERN SUPER REGION SITE

(Kyiv Region, Zhytomyr Region, Chernihiv Region)

Site: National University of Life and Environmental Sciences of Ukraine

Teams: 28

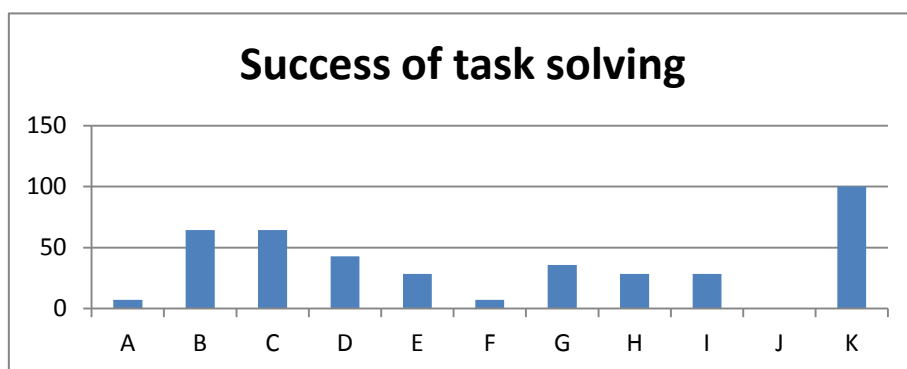
Universities: 13

School Division teams: 10

Cities: 5

Success of problem solving was varied, as shown in the following table and chart:

Problem	A	B	C	D	E	F	G	H	I	J	K
% of success:	7	64	64	43	29	7	36	29	29	0	100



The region level (distribution of quantity of tasks solved) is shown in the Table

Problems	11	10	9	8	7	6	5	4	3	2	1	0	Total
Teams	0	1	0	2	1	2	1	1	3	5	8	14	38

The best teams of the Ukraine Southern Super Region Site:

Rank	Team	University	Total online	Total off Line	Total full-time	Total penalty
1	KNU_0_GB_RAM	Taras Shevchenko Kyiv National University	8	2	10	618
2	KNU_Duplee	Taras Shevchenko Kyiv National University	5	3	8	343
3	KNU_TheNextLevelPlay	Taras Shevchenko Kyiv National University	7	0	7	560
4-5	KNU_Immortals	Taras Shevchenko Kyiv National University	4	2	6	297
4-5	KNU_LL	Taras Shevchenko Kyiv National University	5	1	6	517
6	KNU_SLOZNO	Taras Shevchenko Kyiv National University	3	2	5	312
7	NaUKMA_RDD	National University of Kyiv-Mohyla Academy	2	2	4	70

Rank	Team	University	Total online	Total off Line	Total full-time	Total penalty
8	NTUU_KPI_Kappa	National Technical University of Ukraine "Kiev Polytechnic Institute"	3	0	3	431
9	NTUU-KPI-IPT-4	National Technical University of Ukraine "Kiev Polytechnic Institute"	2	0	2	158
10	NTUU_KPI_Ubaltoni	National Technical University of Ukraine "Kiev Polytechnic Institute"	1	1	2	417

School Division Winners:

Rank	Team	High school	Solved	Time
1	s_KPNL_Sho	Nature Scientific Liceum №145	8	1075
2	s_Kyiv-UPML- KPNL145-- TLNTUUKPI-ALGO 000+ Invalid Pointers	Kyiv Team	3	140
3	s-Leader	Kyivo-Pecherskiy Lyceum #171 «Leader»	3	409
4	Consructiv_School	Zhytomyr City Center for Scientific and Technical Creativity of Student Youth	2	217
5	s_KyivLyceumNTUUKPI-ALGO30	Politechnic Lyceum of the National Technic University of Ukraine 'Kyiv Politechnic Institute'	2	292
6	s_upml_66on33	Ukrainian Physics and Mathematics Lyceum of Kyiv National Taras Shevchenko University	2	440

The distribution of solved/unsolved tasks is shown in the Table:

Task\#Try\#Success	A	B	C	D	E	F	G	H	I	J	K
% of success:	0	50	50	10	10	0	10	10	10	0	90

The region level (distribution of quantity of tasks solved) is shown in the Table:

Problems	11	10	9	8	7	6	5	4	3	2	1	0	Total
Teams	0	0	0	1	0	0	0	0	2	3	4	0	10

### THE UKRAINE CENTRAL SUPER REGION SITE

(Kirovohrad Region, Cherkasy Region, Dnipropetrovs'k Region, Donetsk Region, Poltava Region)

Site: Central Ukrainian National Technical University, Kropyvnytskyi

Teams: 47

Universities: 34

School Division teams: 8

Cities: 13

The problem set consisted of 11 tasks of different complexity levels.

The distribution of solved/unsolved tasks is shown in the Table.

Task\#Try\#Success	A	B	C	D	E	F	G	H	I	J	K
Total:	10	2	36	0	2	0	3	9	5	1	32
Success:	0	2	2	0	0	0	0	0	0	0	10
%:	0	100	5,6	0	0	0	0	0	0	0	31,3

The region level (distribution of quantity of tasks solved) is shown in the Table:

Problems	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Total
Teams	0	0	0	0	0	0	0	0	0	0	1	7	10	37	55

The winners of Ukraine Central Super Region Site are in the Table:

Rank	Team	University	Total online	Total off Line	Total full-time	Total penalty
1	BKNUC Supernova	Bohdan Khmelnytsky National University of Cherkasy	2	0	2	93
2	DSTU_Code_With_Fun	Dniprovsk State Technical University	2	0	2	207
3	DNU_DDOSToevsky	Oles Honchar Dnipro National University	2	0	2	332
4	Dnipro_politeh_uncleBohd	Dnipro University of Technology	1	0	1	45
5	cPPC_Polytechnic_3	Poltava Polytechnical College by NTU "KhPI"	1	0	1	64
6	DSTU_PROFILER	Dniprovsk State Technical University	1	0	1	156

The best results of the School Division:

Rank	Team	School	Total online	Total off line	Total full-time	Total penalty
1	sPolit-1	Poltava Regional Scientific Boarding Lyceum of II-III degree at Kremenchuk Pedagogical College named after A.S. Makarenko	8	0	8	867
2	sPolit-2	Poltava Regional Scientific Boarding Lyceum of II-III degree at Kremenchuk Pedagogical College named after A.S. Makarenko	2	0	2	64
3	sPolit-3	Poltava Regional Scientific Boarding Lyceum of II-III degree at Kremenchuk Pedagogical College named after A.S. Makarenko	2	0	2	161
4	s_MariupolGymnasium27-ALGO10	Mariupol Gymnasium #27	1	1	2	354
5	sLIT-DNU_1	Dnipro Lyceum of Information Technology	1	1	2	407
6	sPhyMLy Boys next door	Cherkasy Physics and Mathematics Lyceum	1	0	1	138
7	sLIT-DNU_FiNiX	Dnipro Lyceum of Information Technology	1	0	1	150

The distribution of solved/unsolved tasks is shown in the Table:

Task\#Try\#Success	A	B	C	D	E	F	G	H	I	J	K
Total:	1	4	8	2	3	0	4	1	3	0	8
Success:	0	3	3	1	1	0	1	1	1	0	7