

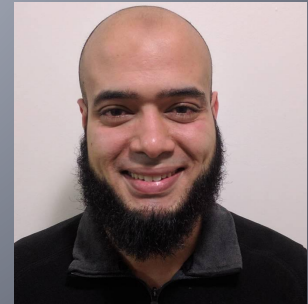


Competitive Programming

From Problem 2 Solution in $O(1)$

ICPC Community Egyptian Case Studies

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ICPC Community Competition activity



Img [Src](#)

2 Categories

- Category A
 - FCICU, GUC, AAST, AlexEng
- Category B
 - Assiut, Shoubra Eng, Mansoura, Benha FCI

FCICU Community: before 2006

- No Community (Few interesting guys)
- In Charge
 - Prof Salwa El Gamal \Rightarrow Managerial Part
 - Interface with Cairo University for fund/resources
 - Help in building the teams
 - Eng Mohamed Abd Wahab \Rightarrow Technical Part
 - Maybe running some competitive summer training
 - In 2005, he did USACO training in summer attracting some guys. I was one of them. In its end, he gave us a CD with All USACO solutions and editorials
 - Help in building the teams

FCICU Community: In 2006

- 2 teams only were built!
 - Hamza Ibrahim, Mostafa Saad, Mahmoud Ezzat
 - Mohamed El Asmaar, Karim Nossir, Ahmed Saad
 - Kind of 1 senior (Hamza), and others semiseniors/juniors
 - No others in the community!
- Performance
 - Hamza team 1st warm up, 2nd National, 9th regional
 - Regional results were *shocking*
 - We decided to start **permanent training** in 2007

FCICU Community: In 2007

■ Training space

- Coach wahab converted **his home** to a military training unit! Training almost daily!

■ Trainees

- 6 members from 2006 + other 3 from my class
- Coach wahab was training strongly beside us, learning much and teaching us.

■ Me

- I felt sad that we are that young
- Started to attract and train juniors
- Dr Salwa helped in reservering labs from FCICU

FCICU Community: In 2008+

- In 2008 I kept training juniors and community kept growing up
 - Others mentored and gave programming courses
 - We built a new semi-seniors trainees
 - Coach wahab received these new guys / others
 - That was unlucky generation
 - Somehow at some point, we have like 3 layers of trainees
 - Juniors, semiseniors and seniors
- Till 2011, Prof Salwa El Gaml handles funds
 - Some issues with FCICU since that, then we receive no/partial funds and have to manage by ourselves :(

FCICU Community: ACPC Performance

- The peak of 1st 2 generations 2007-2012
 - 1st, 3rd, 1st, 2nd, 2nd, 1st
- The drop of next generations 2013-2017
 - 7th, 8th, 8th, 12th, 9th :(:(
 - **Our level is degrading**
 - Area of debate why this is happening
 - Quality of newcomers, Training issues, seniors left Egypt, Funds issue, attendance in FCI, TAs Contestants, Coach wahab broadens his interests in ACPC,...
- Training plan:
 - All seniors meet in Dec to discuss thoughts for next year

GUC Community

- Since Prof. Slim Abdennadher joined GUC
 - He do managerial not technical things (Like Prof Salwa)
- ~2002 bad performance
 - Since that Slim puts more support and encouragement
 - Trainees: Abdallah el Guindy, Islam Khalaf and Mohamed Abdelfattah \Rightarrow 2008 World Finalists (3rd batch)
 - Guys coaches some others from 4th/5th batches
 - Trainees: Islam Al Aarag, Omar Darwish, Mostafa Fahim and others (6th batch)
 - Islam Al Aarag conducted more regular training
 - 7th batch includes Mostafa mahmoud
 - Mostafa did camps and trainings in early time

GUC Community

- 8th/9th batches
 - Good candidates - No interest in coaching - busy
 - *Probably behind NO GUC in WF 2015*
- More efforts toward 10th batch
 - Mostafa Mahmoud put lots of efforts: tech/pyscho
 - Islam Al Aarag camp, Maha Badr Eldin support
- 11th and 12th batches
 - Khalid Abdalnasser camp attended by Ahmed Elsagheer, Mohamed Nasser Aly, Badry Atef, ... (Batch 11)
 - Ahmed Elsagheer takes lead and put good efforts
 - Omar Kharouba and others (Batch 12)...

GUC Community: Notes

■ Strong community

- ranks since 2006: 8, 3, 2, 9, 1, 1, 3, 1, 5, 12, 8, 2
- Less bureaucracy in GUC compare with FCICU
- Continuous support from Prof slim / seniors
- Guys are keen to transfer **both**: knowledge and experience
 - Newcomers don't start from scratch
- Learning from **2015 mistake**: Each batch coaches the one after it, and if they need help, they ask older batches.
- Adopting the young people
 - *“advices every now and then, guiding them through their practice, telling them how to balance between courses and such an extracurricular activity”*

AAST Community

■ EOI

- AAST is involved in this competition since long time
- The head officials themselves are interested in the activity
 - Dr Osama Esmail, and his team
- Some of the EOIs are attracted to AAST
- Organizing ACM ACPC since 2007

■ Like others

- Training & Camps for ICPC guys
- Other efforts in Secondary/Prep school levels
- But these IOIs may eventually go to other universities

AAST Community

- Performance since 2006
 - 1, 4, 1, 19, 8, 7+, 6, 14, 1, 3, 1, 3
- AAST fails too to maintain top-5 record
 - Critical reason: *Quality of students*
 - 2008 strong team of naguib/patriot team => then drop
 - 2014: 1st (Kamel team) & 2nd AAST
 - 2016: Salem team
 - There is a middle era with many low ranks
 - Recent performance is much better
 - Seems in 2017, much gap between 1st and their 3rd teams
 - As far as I know in 2017 ⇒ less newcomers/seniors

Alex Computer Engineering

■ Background note

- Cairo and Alex Computer Engineering typically have so strong students, due to acceptance nature in them

■ Institute support

- Nothing official. So hard to get funds or reserve labs

■ Attracting new guys

- ACM Chapter organizes an event in the begin of each year

■ 2 trainings

- Mid Year Vacation
- Summer Year Vacation

■ *Side note: This is close to how we used to do in FCICU*

Alex Computer Engineering

■ Mid Year Vacation

- What is CP? Basic Problem Solving
- Guiding till the summer begins

■ Summer Vacation

- From basic to very hard algorithms / problems per topic
- Mid way: ~10 guys remain, 3 of them typically strong

■ Misc

- In 2017: 10 local teams, 4 ECPC, 2 ACPC
- Ranks Since 2006: 4, 15, 7, 11, 3, 5, 2, 2, 10, 1, 20, 1
- Some key names: Mahmoud Radwan, Essam Alnaggar and Moustafa Gabriel, Amr Mahmoud

AUC

- Weak community - More about individuals
 - Students are so busy with study/other activities
 - Maybe before graduation one feels ACM is important
 - Some individuals are attracted for some random reason and put the right effort to succeed (few times)
- Ranks since 2006:
 - 2, 2, 4, 7, 10, 8, 7, 16, 3, 22, 7, 27
 - 4th 2008: Khaled Hafez team: So strong team
 - 3rd 2014: IOIers team (Islam Diao/Hosam/Ghonim)
 - Champion of Africa in WF 2015

Assiut University

■ 2014-2015

- Few guys tried to get help locally, but nothing
- Guys put efforts to understand little more about judges
- Abdelrahman ElGammal sessions for 10 guys in Assiut
 - Basics
- Guys talked to the **Dean** to get support for ECPC 2015
 - Dedicated space to use for sessions
 - Guys used FB to announce and motivate
 - Made sessions for basics & sheets based on URI
 - Then moved slowly to easy codeforces
 - Local contest in se3eed (Assuit 7 teams)

Assiut University

■ 2016

- More contact with Ain Shams / Nour El Rashidy
- Duplicate what happens in Ain Shams
 - E.g. Weekly 3-hour contests / sheets
 - students tell each others about them = attract more
- ACPC Fouad: How to have official local contest?

■ 2017

- New vision for training
- Old guys as mentors for new guys (1 mentor for 5 guys)
- Contest of their own problems (context about them)
- Target: Quantity more not quality for newcomers

Assiut University

■ 2017 - Local

- Asked Fouad/Wahab to have their local
- They got a problem set for it
- Eng Ahmed Alsagheer was chief judge
- Duplicated much of the official process
 - Guys can tell other students about that
- Fund issue with Bureaucracy systems
- There were no ACM Chapter
- They created a complete community
- Creatin ACM Club
- Helping other communities

Assiut University

■ Notes

- Passion guys / hard workers to setup a community
- Much care with new guys to not give up.
 - Easy initial problems to not be scared and run away
- With bigger community, the problems are harder now
- Weekly sessions, filtrations and different trainings
- Make use of others experience

Shoubra Engineering

■ To 2012

- Few trials - No passion to spread it

■ 2013

- **Key player:** Nouredin Yosri - 44th ECPC
 - The other guys graduated - got bust
 - Nour was undergrad - caring about ICPC/community
- IOI team performance inspired him to follow their training: So run **USACO**/Some FCICU style with juniors

■ 2014

- 14th in ECPC (Nour advantage in Number theory)
- Bad performance in ACPC / Discussion with Islam AA.

Shoubra Engineering

■ 2015: Year of issues!

- Juniors feel workload (train/help others)
- *Students upset that Nouredin decide alone*
- Negative spirit: we will never do something
- Nour left the training, trained alone
 - qualified to Coach wahab training
- Nour new level gave him better position in his friends' eyes and TAs
- Mohamed Zain: head from mid 2015 - to end of 2017
- Performance ??

Shoubra Engineering

■ 2016

- Fixing community issues with students and TAs
- Nour: Sharing and giving tips not heading others
- 3 levels training in shubra
- Selecting teams issue: Based on 4 qualification contests / sum solved problems
- Nour/Zain team: 13th ECPC/10th ACPC
 - Qualified to WF / Train in different way
 - Going to WF = inspired and activated more in the community

Shoubra Engineering

■ 2017

- Nour as judge/chief judge
- More guys from shoubra to Coach wahab home
- But actual contest performance was not good
- 1 team to ACPC was leading the scoreboard but couldn't go beyond 5 problems / No WF

■ Notes

- Community, but seniors about to graduate - reasonable structure/process.
- New generation who is trying to maintain the community and handle the challenges.

Mansoura Engineering

■ Story

- The begin: Eng Mahmoud [Elbarbary](#): Attracted to ACM, Got help from **AinShams**, Built a team, trained together. Events that got more students (used game theory tricks to motivate students). More trainees with passion
- The above generation trained current one who is taking the lead (e.g. Sara Elkadi and her colleges)

■ Key notes:

- Build **core** team first, get help from **experienced** guys, events with **key** speakers, training/coaching others, knowledge/experience **transfer**, **passion** students, **ranks**

FCI-Benha - *newbie*

■ Story

- 2014: Ahmed Abdelmegid training, 2 teams participated in contest for fun / left
- 2015 = very basic training / some train on their own
- 2017 = A. Ramadan short training: *Students decrease so fast*. Same for 2016 with Eng Amr Alaa Eldin
- Students are more attracted to technology than comp.
 - We faced that in FCICU in 2007 from some TAs
- Still weak community / environment
 - Lots of cheaters in training in some years
 - Students has less passion to build a community
- Key player: Eng Mohamed Shehata

Insider...Outsider

- I am **insider** in FCICU
 - Contestant in 2005-2011
 - Other roles since 2011
 - Attended several meetings / clashes / events
 - So I know many details = Overall accurate info
- For all other facilities, I am **outsider**
 - I make judgement based on what publically available
 - Some chat with insiders
 - So I know less internal details = Overall not so accurate
- Side note: Performance drop
 - Sometimes drop is due to contest/team status

Acknowledgment

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تم بحمد الله

علمكم الله ما ينفعكم

ونفعكم بما تعلمتم

وزادكم علماً