

Vision

To equip women with excellent education in Computer Engineering, enabling them to play significant leadership roles in technology and society



**MKSSS's Cummins
College of Engineering
for Women, Pune**

Affiliated to Savitribai Phule Pune University | Accredited by National Assessment and Accreditation Council (NAAC)



Transhumanism-

An intellectual condition that calls for sophisticated technology to enhance human condition- physically, intellectually and psychologically.

COMPUTER DEPARTMENT'S

ECHO

COMPUTER DEPARTMENT

Mission

1. Impart excellent education, necessary skills, training and experimentation capabilities in the field of computer science and engineering.
2. Create a vibrant and an intellectually stimulating environment for students to promote innovative and multidisciplinary real world problem solving.
3. Develop women professionals and imbibe work ethics and leadership skills in them, thereby helping them pursue successful career and contribute to science and technology.
4. Collaborate with industry and other universities to help create competent computer professionals.
5. Strive to fulfill the expectations of all relevant stakeholders.

Program Educational Objectives (PEOs)

1. To prepare students for academic competence, to be employed as computer professionals, for industry, higher studies, research, entrepreneurship and to significantly contribute to the society at large.
2. To develop students' fundamental knowledge related to mathematics, science, computer science, computer engineering and to make them capable of providing solutions to challenging problems and multidisciplinary problems.
3. To enrich students with soft skills, leadership skills, professional skills and work ethics to make them good computer professionals and role models for future generations.
4. To prepare students capable of self-learning, to have the ability to adapt to changes and to possess the ability to understand the impact of engineering on society and humankind.

Program Specific Outcomes (PSOs)

1. Graduates capable of working in various domains, solving problems by applying knowledge and skills from Software Development, Networking, Databases, Internet of Things, and Embedded systems.
2. Graduates capable of developing, maintaining software services, software products and embedded systems by applying the entire software development life cycle.
3. Graduates capable of communicating effectively and understand and implement client requirements in various domains with a realistic view of all constraints and sustainability.
4. Graduates capable of pursuing successful careers in industry, higher studies, research, and expected to adapt and contribute to ever-changing and evolving trends.

BEST OUTGOING STUDENT

Harshita Shrivastava was selected as the best outgoing student for the class of 2016.

PROJECT WINNERS

- Shreya Date, Maithilee Joshi, Aishwarya Gupte and Neha Kshirsagar, under the guidance of Prof. S. Davalbhakta were the first runners up at PICT Concepts and won the CCOEW-PSL Project Competition,
- Priyanka Dabadge, Shraddha Dhyade, Jaishree Gharde and Harsha Deshmukh, under the guidance of Prof. A. Raste, were the 2nd runners up at PICT and the 1st runners up at CCOEW.
- Rashmi Kumari, Tejal Dhoot, Supriya Bhade and Pooja Bhuse, under the guidance of Prof. A.N Muchrikar, won the 1st prize at SKNCOE Convene under both Big Data and Switch Idea domains.
- Nikita Borse, Gauri Khedkar, Sannidhi Teredesai and Aishwarya Vanjape, under the guidance of Prof. M. Deore, bagged the 2nd prize in the domain Cloud Computing at SKNCOE Convene.
- Chetana Kaushik, Priyanka Mishra, Rutuja Yewalekar and Tejol Bhandari and Aras Ashwini, under the guidance of Prof. S. Davalbhakta, won the 2nd prize at CCOEW, Innovation.
- Rutuja Dahatonde, Shivani Birmal, Bhagyashree Kulkarni and Pooja Baheti, under the guidance of Prof. S. Jahirabadkar, were the 2nd runners up at the CCOEW PSL project competition.
- Sonali Tanna, T Swati Sri Kiran, Harshita Yeole and Priyanka Borawake, under the guidance of Prof. M. Deore, won the 2nd prize in MMCOE Dexterity contest.

TRAILBLAZERS

(STUDENTS' CO AND EXTRA CURRICULAR ACTIVITIES)

Twist Your Mind

*How to write a program to multiply a number by 7 without using * operator and without adding the numbers 7 times?*

- Harshada Jivane, a Microsoft Student Partner, won the "Women in technology campaign" organized by Microsoft.
- Shagufta Methwani was selected for a Leadership Summit, Singapore on 22 January 2016- a conference where core contributors to Mozilla were invited.
- Anisha Salunkhe secured an All India Percentile 90.2 in category 2 in the National Creativity Aptitude Test, 2015. Anisha Salunkhe also received the 1st prize in the competition - "Web Surfer", TechVolution '15 organized by MITCOE, Pune and won the 2nd prize in "Google Whack", TechVolution '15 organized by MITCOE, Pune.
- Vaswani Nain Sanjay won the EATON Pratibha-Excellence award and was awarded an appreciation certificate.
- Sakshi Dhorat won the 1st prize in NICE, organized by Pune Local Network at CCOEW, Pune.
- Rafiya Shaikh won the 3rd prize in the - "Crosswork Puzzle Challenge" at CCOEW, Pune and the 3rd prize in the quiz - "Q 2015" held at ILS Law College, Pune.

- Aishwarya Kalyankar and Saniya Khairate placed 5th in the Non Technical Quiz Competition®- Evolution) at D. Y. Patil Institute of Engineering, Pimpri.
- Sonal Singh and Shreya Pekam won 1 st prize in Innovation 2k16 for the event “ASSEMBLEX”, held at CCOEW,Pune.
- Vaishnavi Iyer stood 1st in the Ecorangers' “Poster Making Contest” at CCOEW,Pune.
- Anurima Chaurasia stood first in the Smart Campus Challenge at Maharshi Karve's Stri Shikshan Sanstha,Pune.
- Pradnya Kandarkar won the 2nd prize in Innovation 2k16 as a part of the event “TechnoHunt” , at CCOEW, Pune.
- Udayani Jadhavrao and Gauri Chawre represented Pune in the “Inter Zonal Football Competition” at C.A.C.P.E Pune.
- Devika Kale, Gauri Chawre and Udayani Jadhavrao were a part of the winning team in the women's football category in Flame Kurukshetra '16 held at FLAME University.
- Devika Kale, Anuradha Tupe and Udayani Jadhavrao were a part of the winning team for football, while Devika Kale was awarded with the “Golden Boot” in Summit'15 held at MIT,Pune.
- Pallavi Rokade was a winner in a national level basketball competition organized by MAEER'S MIT, Pune and a winner at a university level basketball competition organized in the Pune City Zone.
- Gauri Chawre and Kanika Narang were a winning team members in SUMMIT-15 at MIT, Pune and AIT, Pune respectively, while Gauri Chawre also emerged as the winner in the basketball tournament organized by the Savitribai Phule Pune University.
- Kanika Narang and Gauri Chawre won the 1st position in the category Basketball [Girls] , while Shevi Jain was 1st in the category- Table Tennis [Girls], Renuka Godse won 1st prize in for a basketball girls team event and Devika Kale was the top scorer and stood 1st in Football [Girls], in Pentacle '16 held at CCOEW,Pune
- Shevi Jain won the 2nd position in Table Tennis in ZEST '16 and Sayali Mahamine won the 1st prize in cricket in ZEST '15 - an event organized by College of Engineering, Pune.
- Shevi Jain won the chess tournament , Gauri Chawre, Kanika Narang and Renuka Godse were winners in the Basketball tournament , Sakshi Dhorat won the 1st prize for carrom, Gauri Joshi won the 1st prize for chess and Shevi Jain won the table tennis tournament at Damini '16 organized by Maharshi Karve's Stri Shikshan Sanstha ,Pune. Renuka Godse also placed first for both discus throw and shotput at Damini '16.
- Renuka Godse, Kanika Narang and Gauri Chawre won 1st prize for a basketball team event organized by the Vishwakarma Institute of Technology , in Melange '16. Shevi Jain also won the table tennis tournament at the same.

NUMBER CRUNCHING (PLACEMENTS)

This year, a total of 153 offers were made to students. 20 students were placed in Cybage, 31 in Accenture, 11 in Persistent, 10 in Barclays, 8 in Infosys, 6 in Siemens and

Cisco, while 3 students were placed in Oracle. Companies such as Z.S Associates, Mu Sigma, Infosys, Capgemini, NVIDIA, MindTree, HSBC, Target, Deloitte, Avaya , Eaton and Seagate also visited our campus, concluding this round of placement.

WORD OF HONOUR (Talks arranged)

- “Managing B.I systems, using real life case studies, and the demo of SAS B.I tools” by Mr. Manoj Singh, Mr. Vijay Chougule of SAS Analytics was organised on 16th March 2016 for B.E Computer students by Dr. S. Jahirabadkar.
- “IoT: Internet of Things” by Mr. Anand Taboli on 9th of March, 2016 was organised under C.S.I student chapter for S.E, T.E and B.E students, Ms. V Salgar.
- “Selenium Testing Tool” by Ms. Manali Kulkarni on the 21st of March, 2016 was organised for B.E students by Ms. S. Nagpurkar.
- “Virtualization” by Professor Suraj Chavan on the 7th of March, 2015 was organised for T.E Computer students by Dr. S Arora.
- “Introduction to Compilers” by Dr. Abhijat Vichare, faculty at the Computer Science Department under University of Pune, was organized by Mrs. A Raste and Mrs. J Chourasia under the A.C.M women's chapter for T.E Computer students on the 3rd of March, 2016.
- " Case study in python" by Anuja Kelakar for B.E. Computer students by H.S. Khairnar and S.S. Mandke.

Rattle those Cells

For any two given binary strings find a solution to derive the no of bits different between both the numbers (i.e. find the Hamming distance between them)

MAXIMUM EXPOSURE (Workshops Attended)

- Mrs. N Attar, Mrs. S Nagpurkar and Mrs. K Saner attended a FDP on B.E Computer Engg (2012 Course) on SDMT & CL-III Laboratory from 11th Dec 2015 – 12th Dec 2015 at MMCOE.
- Mrs. P Deshpande and Mrs. S Mandke attended a FDP on B.E Comp Engg (2012 Course) on CL-IV Laboratory at MIT,Pune.
- Prof. S Arora and Mrs. S Shelke attended a three day workshop on “Distributed Computing using OpenCL, OpenMPI & BBB” from 12th Feb 2016-14th Feb 2016 at PICT, Pune.

Shake your Head

Given are certain outputs. Decode the pattern that has been used for encoding(Hint: The first value input is the length of the string. Take it seriously! :P)

Example 1:

Input:

12

middle-Outza

Output:

okffng-Qwvbc

Example 2:

Input:

8

Heri_+ag

Output:

Khul_+dj

FACULTY ACHIEVEMENTS

- Dr. Supriya Kelkar was a resource person for conduction of 1 Day workshop on “ARM7 programming and communication protocols for embedded system” held on 16 March 2016 at the E&TC department of NBN, SCOE, Solapur
- Dr. Supriya Kelkar was reviewer for manuscript # 15-TIE-1153 entitled "Data Driven Node Bus-off Time Assessment for Controller Area Networks" for the IEEE Transactions on Industrial Electronics.
- Dr. Supriya Kelkar delivered a guest lecture on " " at RMD singhgad on 17th feb 2016
- Dr. Sunita Jahirabadkar was the chief guest and judge for an inter college debate competition on 16th December 2015.

ARTICLE: SELENIUM TESTING TOOL

Selenium is a portable software testing framework for web applications. Selenium provides a record/playback tool for authoring tests without learning a test scripting language (Selenium IDE).

It also provides a test domain-specific language (Selenese) to write tests in a number of popular programming languages, including Java, C#, Groovy, Perl, PHP, Python and Ruby. The tests can then be run against most modern web browsers. Selenium deploys on Windows, Linux, and Macintosh platforms. It is open-source software, released under the Apache 2.0 license. Selenium was originally developed by Jason Huggins in 2004 as an internal tool at ThoughtWorks. Selenium is not just a single tool but a suite of software's, each catering to different testing needs of an organization. It has four components-

- Selenium Integrated Development Environment (IDE)
- Selenium Remote Control (RC)
- Web Driver
- Selenium Grid

To download and install selenium IDE, type URL : <http://seleniumhq.org/download>

- Dr. Sandhya Arrora reviewed two PhD thesis in the year 2015-2016 for Banasthali Vidyapeeth.
- Dr. Sandhya Arrora delivered a guest Lecture on "Parallel Algorithms" on the 15th of September 2015 at D.Y Patil college, Talegaon.
- Mr. Hitendra Khairnar was the session Chair for CPGCON 2016 held on 25 and 26th March 2016 at PCCOE, Pune.
- Mr. Hitendra Khairnar was the reviewer for “Recent advances in Computer Engineering” on 22 January 2016 at MES's COE, Pune.
- Mr. Hitendra Khairnar delivered a guest lecture on PCDP on the 22nd of March 2016 at RMD Sinhgad technical Institute Warje, Pune.
- Mr. Hitendra Khairnar delivered a guest lecture on “Cloud Computing” on 26 September 2015 at the Zeal college of Engineering, Pune.
- Mrs. Chhaya Gosavi will be reviewing entries in CASP 2016 to be held at CCOEW in June 2016.
- Mrs. Sakshi Mandke adjudged the competition “Impetus and Concepts” on 19th March 2016 at PICT, Pune.

FACULTY PUBLICATIONS

- Mrs. Neeta P. Maitre published a paper titled- “Expressed sequence tags and gene prediction in cotton genome” in the International Conference on Innovative Research in Biotechnology, Biomedical Sciences, Bioinformatics and Stem Cell Applications for the January 2016 issue.
- Mrs. Shubhangi V. Tikhe and Mrs. Anjali Naik published a paper titled- “Algorithm to identify Enamel Caries and Inter-proximal Caries using dental digital radiographs” in the January 2016 issue of the 6th IEEE International Advance Computing Conference.
- Mrs. Shubhangi V. Tikhe and Mrs. Anjali Naik published a paper titled- “Algorithm to detect Fracture from OPG Images Using Texture Analysis” in the February 2016 issue of the 6th IEEE International Advance Computing Conference.

- Sulakshana Nagarpurkar

VM MIGRATION

They say, always ask before entering into any agreement, "How do I get my data out in the future if I need or want to?"

A major obstacle, that business enterprises face, when it comes to cloud services adoption, is the fear of getting locked in the vendor. Cloud Vendor Lock - in is the problem where customers using a product or service provided by the cloud vendor cannot easily transition from one cloud to another competitor because of incompatibility and proprietary issues.

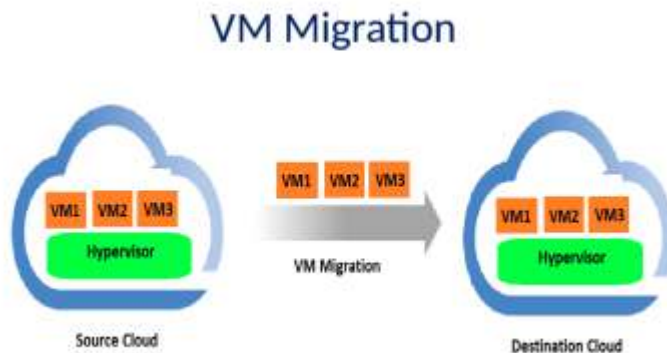
A classic example to illustrate this would be Netflix's problem of Lock-in in AWS that prevents it from moving to its competitor.

There are several reasons like cost, QoS, etc. as to why a customer might want to migrate services from one cloud to another but there are several complexities associated with inter cloud migration because vendors are often nervous about customers changing suppliers making the transition a deliberate complex task.

Inter Cloud VM Migration is a concept that enables migration of instances of a customer's VMs from one cloud to another. It is a complicated process that delves into moving a virtual machine from the hypervisor environment of one cloud to the hypervisor environment (often incompatible) of another cloud. This step is a preliminary step to data and application migration.

VM migration includes the following generic steps:

1. Cloning the VM you want to migrate.
2. Pulling the cloned VM from the source cloud.
3. Making changes in the VM (locally) to make it compatible with the hypervisor environment of the target public cloud.
4. Pushing the VM to the target public cloud.
5. Booting the VM in the target cloud.
6. Deleting the VM (migrated to target cloud) in the source cloud.



The solution of the entire problem of Vendor Lock-in will have many buyers in the market but as of today it is still farfetched concept considering the vastness and complexity involved in the cloud services. Yet, the solution is not impossible and it seems that it will definitely be a promising one and a boon to all those customers who have their data in cloud and constantly face the fear of supplier lock in who earlier would hear this word of caution when adopting cloud services "Go to the Cloud, that's the future.... but be aware of the impact if something goes wrong and find out what are your alternatives."

- Chetana Kaushik, Rutuja Yewalekar, Tejol Bhandari, Priyanka Mishra, Ashwini Aras

What it was like for us to exhibit our project

In the final year of college, a major activity is the BE project. What with all the lectures, learning, exams of the former years, it is finally time to use/showcase skills we all work so hard to develop. What better than the BE project? And in the end, there comes the time to showcase all that you have built.

There are several reasons why everyone must grab opportunities to showcase their projects. The exposure you get to probable employers! For all those who find it difficult to crack aptitudes and interviews but are excellent when hands-on, this is the best opportunity to prove themselves. This also applies to all those who haven't been able to prove themselves academically in terms of their report cards but are creative, passionate about coding or have research aptitude.

Our project is sponsored by Persistent Systems, and we are trying to build a system that provides for migration

of VMs from one public cloud to another, a step towards the solution of Cloud Vendor Lock in. This idea is a novel one, and will surely attract buyers in the market, much to the dismay of the Cloud Vendors.

We showcased our project and its concept in various competitions like Innovation, Pict Concepts, CCOEW-PSL Project Competitions. It was a true learning experience. We were subjected to praise but also constructive criticism from the industry. They gave us new insights and perspectives regarding our project which helped us improve what we built. Just a tip though, try and contribute substantially to your project in the first semester to ensure that you don't miss opportunities like MindSpark and Mood Indigo, because we regret missing it.

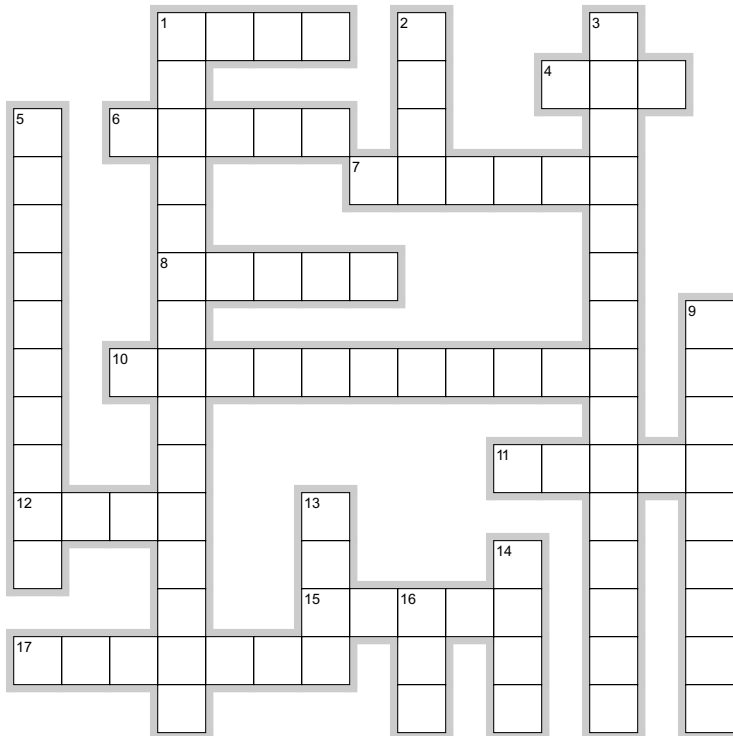
And for all those TEs who will participate next year, a word of advice : Don't feel disheartened when you feel your project isn't good enough, instead work hard to make it good enough and don't overwhelm when you feel your project is good enough.

There will always be scope for improvement.

- Chetana Kaushik, Rutuja Yewalekar, Tejol Bhandari, Priyanka Mishra, Ashwini Aras

What you know about ARM7

Supriya



EclipseCrossword.com

Across

1. Status Register
4. Interrupt used for DMA transfers
6. Written before the first assembly instruction
7. Required to convert object code to binary
8. Architecture mode
10. Memory Architecture of ARM 7
11. No stages in pipeline
12. Architecture where instructions are of same size and executed in 1 cycle
15. Highest priority interrupt
17. Byte code execution

Down

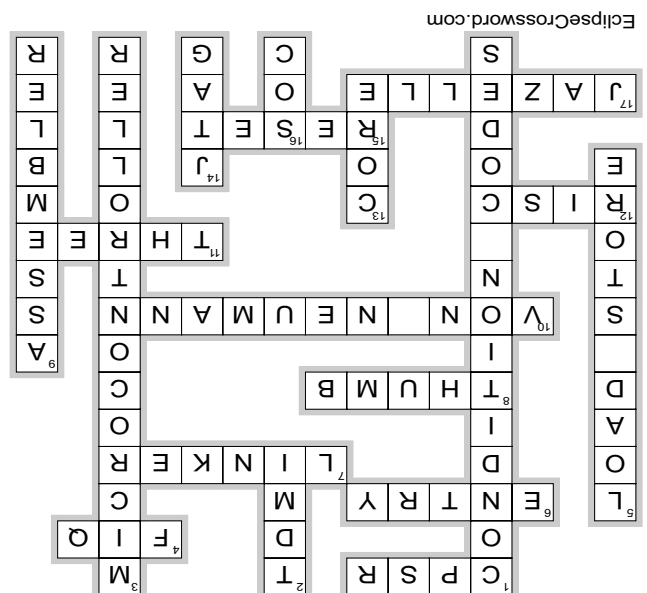
1. What you append to data processing instructions to make them more effective
2. One of the ARM7 name conventions, popular
3. CPU with memory and peripherals
5. ARM7 memory access
9. Required to convert assembly code to object code
13. Not a chip but can be made one
14. Debug interface
16. Many processors, memory and peripherals together

FACULTY CO-ORDINATORS:

Mrs. Shubhangi Tikhe
Mrs. Soudamini Patil
Ms. Sayali Davalbhakta
Mrs. Sakshi Mandke

STUDENT CO-ORDINATORS:

Teasers by Alcoholic- courtesy Pooja Patil, Richa Tibrewal and Team
Niranjana Deshpande (EDITOR and DESIGNER)



EclipseCrossword.com

Teaser Solutions
Solution 1 - Take the second number as input(say x), shift it left by 3 bits (i.e. multiplication by 8) and then subtract x from the resultant.
Solution 2 - The value used for encoding is length % 5
Solution 3 - XOR the two values and continuously take the mod 2 of the resultant and count the number of 1's to give you the answer.