



GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, C.G., INDIA

CPE Phase- III By UGC

Awarded Star College By DBT, New Delhi



:: WORKSHOP ON ::
“ MATLAB: APPLICATIONS IN SCIENCES ”

06 July 2023 to 10 July 2023

:: Organized by ::



Department of Mathematics

Govt. V.Y.T. PG Autonomous College Durg, C.G.

In Collaboration with
Bhilai Institute of Technology Durg, C.G.

:: Sponsered by ::
RUSA (Rashtriya Uchchar Shiksha Abhiyan)

:: Resource Persons ::

:: Patron ::



Dr. AMIT KUMAR BISWAS
ASSOCIATE PROFESSOR
BHILAI INSTITUTE OF TECHNOLOGY,
BHILAI HOUSE, DURG, CG.



Dr. SHRADDHA RAJPUT
ASSISTANT PROFESSOR
SHRI SHANKARACHARYA PROFESSIONAL
UNIVERSITY, BHILAI, CG.



PRATIK SINGH THAKUR
RESEARCH SCHOLAR
GOVT. VYT PG. AUTONOMOUS
COLLEGE, DURG



Dr. R.N. SINGH
PRINCIPAL
GOVT. VYT PG. AUTONOMOUS COLLEGE,
DURG, C.G.

:: Convener ::

:: Organizing Secretary ::



Dr. PADMAVATI
PROFESSOR & HEAD
DEPARTMENT OF MATHEMATICS



Dr. PRACHI SINGH
ASSISTANT PROFESSOR
DEPARTMENT OF MATHEMATICS



Dr. RAKESH TIWARI
ASSISTANT PROFESSOR
DEPARTMENT OF MATHEMATICS

About the department:

Dedicated to educational excellence, our department at Govt. VYT PG. Autonomous College, Durg is organizing a transformative workshop to empower participants with innovative teaching methods and insights aligned with the principles of the New Education Policy. Join us and unlock your potential in education.

About the keynote speaker:

Presently serving as an Associate Professor in the Department of Computer Applications at Bhilai Institute of Technology, Durg since 2003, Dr. AMIT KUMAR BISWAS holds a Ph.D. in "Fractal Image Compression of Medical Images" from CSVTU, Bhilai. With a strong academic background, including B.Sc., M.Sc. (Maths), and M.C.A. degrees from Pt. Ravi Shankar Shukla University, Raipur, he is a life member of ISTE. Driven by his passion for research, he has authored/co-authored 17 technical papers in international journals and presented 10 papers at national and international conferences. With expertise in Digital Image Processing, Image Compression, and Object Recognition, he has guided seven M.Tech. projects and reviewed papers for reputed international journals. Furthermore, his contributions extend to software development, Android tutorial apps, and an educational YouTube channel named "E-Teaching Gurukul," featuring 480+ video lectures on computer subjects.

:: Schedule ::

Date	Topic	Time	Spokes Person
06 July 2023	Introduction to MATLAB and Basic Operations	02:00 PM TO 05:00 PM	Dr. AMIT KUMAR BISWAS Dr. SHRADDHA RAJPUT
07 July 2023	Data Visualization and Plotting	02:00 PM TO 05:00 PM	Dr. AMIT KUMAR BISWAS PRATIK SINGH THAKUR
08 July 2023	Programming Concepts in MATLAB	02:00 PM TO 05:00 PM	Dr. AMIT KUMAR BISWAS Dr. SHRADDHA RAJPUT
09 July 2023	Data Manipulation and Analysis	10:00 AM TO 01:00 PM	Dr. AMIT KUMAR BISWAS PRATIK SINGH THAKUR
10 July 2023	Advanced Topics and Applications	02:00 PM TO 05:00 PM	Dr. AMIT KUMAR BISWAS Dr. SHRADDHA RAJPUT

Registration Link: <https://forms.gle/HjmZ3UN1sF7qnYUPA>

Registration Fee.: Rs. 100

:: Venue ::

Smart Class, Department of Mathematics, Govt. VYT PG Autonomous College, Durg

:: Important Notes ::

- Certificates will be provided only to those candidates who complete registration by paying Rs. 100.
- Only participants who have a 100% attendance record will be eligible for the certificate.
- The workshop will be conducted in a hands-on mode.
- Please bring your laptop to the session.
- The session will involve interactive exercises and practical demonstrations using MATLAB.
- 09 July 2023, Sunday
- Contact organizers for any questions or clarifications.

Biodata of Resource Persons of the Workshop on "MATLAB: APPLICATIONS IN SCIENCES"

Name: Dr. Amit Kumar Biswas

Mail: akbiswasbit@gmail.com

Designation: Associate Professor, Department of Computer Applications, Bhilai Institute of Technology, Durg



Qualifications:

- B.Sc. degree from Pt. Ravi Shankar Shukla University, Raipur (C.G)
- M.Sc. (Maths) degree from Pt. Ravi Shankar Shukla University, Raipur (C.G)
- M.C.A. degree from Pt. Ravi Shankar Shukla University, Raipur (C.G)
- Ph.D. degree on "Fractal Image Compression of Medical Images" from CSVTU, Bilai (C.G)

Memberships:

- Life member of ISTE (Indian Society for Technical Education)

Awards and Recognition:

- Recipient of the 4th Young Scientist Award from the Chhattisgarh Council of Science and Technology (CGCOST) in 2006

Areas of Interest:

- Digital Image Processing
- Image Compression
- Fractal Image Compression
- Image Segmentation
- Object Recognition
- Audio Compression

Publications and Presentations:

- Authored and co-authored 17 technical papers in International Journals
- Presented 10 National/International Conference Papers

Academic Projects:

- Guided seven M. Tech. projects

Professional Contributions:

- Reviewed 10 International Journal papers in various reputed journals
- Received copyright for Computer Software

Skills:

- Proficient in computational software: MATLAB, C, C++, and Android

YouTube Channel:

- Currently hosting "E-Teaching Gurukul" channel
- Uploaded 480+ YouTube Video Lectures related to computer subjects under various playlists

Biodata of Resource Persons of the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Name: Dr. Shraddha Rajput

Mail: shraddhasss112@gmail.com

Designation: Assistant Professor, Shri Shankaracharya Professional University, Bhilai, C.G.



Teaching Experience: 14 Year(s)

Research Paper(s) Published: 11

Papers Presented in National/International Conference Papers: 07

Qualifications:

- B.Sc. degree from Pt. Ravi Shankar Shukla University, Raipur (C.G)
- M.Sc. (Maths) degree from Pt. Ravi Shankar Shukla University, Raipur (C.G)
- M.Phil. (Maths) degree from Pt. Ravi Shankar Shukla University, Raipur (C.G)
- Ph.D. Mathematics on the topic of "Fixed Point Theorems in Fuzzy Metric Spaces with Applications" from Hemchand Yadav University, Durg (C.G.)

Software Skills:

- Proficient in LATEX, OVERLEAF, and MATLAB for research and teaching purposes

Area of Interest:

- Fixed Point
- Functional Analysis
- Fuzzy sets

Memberships:

- Life member of IMS (Indian Mathematical Society)

Biodata of Resource Persons of the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Name: Pratik Singh Thakur

Mail: spratik343@gmail.com

Designation: Research Scholar, Department of Mathematics, Govt. V. Y. T. PG. Auto. College Durg



Research Paper(s) Published in Journals/ Proceedings: 04

Education:

- M.Sc. Mathematics (2019) from Govt. Dr. Baba Saheb Ambedkar College, Dongargaon (C.G.)
- B.Sc. Mathematics (2017) from Govt. Dr. Baba Saheb Ambedkar College, Dongargaon (C.G.)

Work Experience:

- Research Scholar at the Department of Mathematics, Govt. VYT PG Autonomous College, Durg (Present)
- Guest Lecturer at Govt. Chandulal Chandrakar Arts and Science College, Patan (C.G.) (Sep 2022 - Dec 2022)
- Guest Lecturer [JBS] at Govt. Dr. Baba Saheb Ambedkar College, Dongargaon (C.G.) (Dec 2019 - Mar 2020, Sep 2021 - Dec 2021)
- Teacher [Session 2017-2019] at UPS, Dongargaon & Govt. HSS Bijebhatha (C.G.), responsible for teaching Physics to class 11-12th students

Project Work:

- Conducted a study on fuzzy sets with application: Studied the application of fuzzy sets in Antilock Braking System using FIS.

Awards and Qualifications:

- NET-JRF-2022, NET-2021, GATE-2021, MH-SET 2021, BSc Gold Medalist

Research Article:

- Published research article titled "Algebra of α - Fuzzy Subgroup and Lagrange's Theorem" available at <http://doi.one/10.1729/Journal.29439>

Articles Published in Conference Proceedings:

- Thakur, P. S., Verma, R. K., & Tiwari, R. (2023). Partition Coefficient And Partition Entropy In Fuzzy C Means Clustering. In M. Singh (Eds.), International Conference on “Latest Trends on Applied Science, Management, Humanities and Information Technology” IC- LTASM HIT (pp. 80-84), Sai Mahavidyalaya (Sai College).
- Thakur, P. S., Verma, R. K., & Tiwari, R. (2023). Analysis of Time Complexity of K-Means and Fuzzy C-Means Clustering Algorithm. In M. M. Rajmane, S. A. Patil, S. D. Agrwal, & P.S. Mane (Eds.), Computational Mathematics (pp. 39-49). Prarup Publication, Kolhapur.
- Thakur, P. S., Verma, R. K., & Tiwari, R. (2023). A Comparison Between the Fuzzy C-Means Clustering Algorithm and the K-Mean Clustering Algorithm. In H. K. Saw, K. Sakure, P. K. Mahish, D. K. Verma, & R.Khuthey (Eds.), Role of Applied Sciences in Social Implications Volume D: Mathematics & Computer Science (pp. 59-65). Probecell Press, Bhilai.

Additional Skills:

- Python, LATEX, MATLAB.

**Details of Aspirants who are Registered in the Workshop on
“MATLAB: APPLICATIONS IN SCIENCES”**

Name	Email	Designation	Institute Name
AKSHAY KUMAR VYAS	vyasakshaykumar@gmail.com	Research Scholar	GOVERNMENT MOTILAL VIGYAN MAHAVIDHYALAYA BHOPAL
Dr. Kailash Kumar dewangan	kailashdewangan8@gmail.com	Faculty	Govt. Digvijay p g college rajnandgaon
Heena soni	heenasoni349@gmail.com	Research Scholar	Govt.VYT PG. autonomous college durg
NETRA KUMAR GUPTA	stcnkg9607@gmail.com	Research Scholar	V.Y.T.P.G. Autonomous College, Durg
Pratik Singh Thakur	spratik343@gmail.com	Research Scholar	Govt. VYT PG Autonomous College, Durg
Prashant Dayal Nirmalkar	prashantdayal25@gmail.com	PG Student	Govt. V. Y. T. P. G. Autonomous College, Durg
Khilendra kumar	khilendrakumarnirmalkar@gmail.com	PG Student	GOVT V Y T PG AUTONOMOUS COLLEGE DURG
Nidhi Sharma	nidhipiyushsharma87@gmail.com	Research Scholar	Govt. VYT.P.G. Autonomous College Durg
OM PRAKASH TEKAM	omprakash9713@gmail.com	Faculty	GOVT. V.Y.T PG. AUTONOMOUS COLLEGE , DURG , C.G
Yamini vaishnav	19yamini1997@gmail.com	Research Scholar	Govt. V. Y. T Autonomous PG. College Durg
Kailash Kumar Kakkad	kkakkad28@gmail	Research Scholar	Govt. VYT P.G. College, Durg
SAMEER KUMAR	kkumarsameer@gmail.com	Faculty	Govt.V.Y.T PG Autonomous College, Durg
VIKAS SWARNKAR	vikasg@govtsciencecollegedurg.ac.in	Faculty	Govt. V.Y.T.PG Autonomous College Durg C.G.
Tanu Nirmalkar	nirmalkartanu2001@gmail.com	PG Student	Govt.VYT.Autonomous College Durg
Rajesh Patel	rajesh.patel@bitdurg.ac.in	Faculty	Bhilai institute of technology durg chhattisgarh
Rupa sao	rupasao11@gmail.com	PG Student	Govt v.y.t pg autonomous clg durg(c.g)
Iti sao	itisao5696@gmail.com	Research Scholar	govt. VYT PG. Autonomous College, Durg, C.G.
Anju Netam	anjunetam2000@gmail.com	PG Student	GOVT. V.Y.T. PG AUTONOMOUS COLLEGE DURG
Shashi Thakur	shashithakur89520@gmail.com	Faculty	C. L. C. Government Arts and Commerce College Dhamdha
Bhagvati	bhagvatichandra93@gmail.com	PG Student	Govt VYT Pg Autonomous college durg
Sataek Mirchan	sataekmirchan896@gmail.com	PG Student	Govt v.y.t.pg. autonomous college,durg
Vinod Kumar Pathak	vinodpathak.dmt@gmail.com	Faculty	BCS Government PG College Dhamtari
Dr Seema Verma	seemaverma72@gmail.com	Faculty	GD Rungta college of science and technology Bhilai
CHULESHWAR PATEL	chuleshwarpatel1010@gmail.com	Research Scholar	Govt. J. Yoganandam Chhattisgarh College Raipur C. G

Dr. Sapna Thakur	sapnathakur1282@gmail.com	Faculty	Bhilai Mahila Mahavidyalaya Hospital sector Bhilai
Dr. Sa oftish Kumar sen	satishsen8550@gmail.com	Faculty	Government V Y T Autonomous College Durg Chhattisgarh India
Vijay Mishra	vijay.mishra@rungta.ac.in	Faculty	Gdrct,bhilai
Dr. Shriram Kunjam	shriramkunjam07@gmail.com	Faculty	Govt. V.Y.T. PG Autonomous College, Durg Chhattisgarh
Neha Yadav	neha.yadav@rungta.ac.in	Faculty	Rungta College of Engineering and Technology, Bhilai
Dr.Anuja Chouhan	anu_chouhan@rediffmail.com	Faculty	Govt.Dr.W.W.Patankar Girls PG College Durg
Mangla Devi Sao	mangla.sao@rungta.ac.in	Faculty	GDR CST BHILAI
Jaynendra Shrivasa	jayshrivas95@gmail.com	Research Scholar	Govt.V.Y.T.PG.AUTONOMOUS COLLEGE DURG (C.G.)
JUGAL KISHOR SAHU	jugalsahu2604@gmail.com	PG Student	Govt. V.Y.T. PG AUTONOMOUS COLLEGE DURG
TARUN	tuleshwariverma213@gmail.com	PG Student	GOVT.V.Y.T.PG. AUTO. COLLEGE DURG
Sonali Godbole	sona.godbole1@gmail.com	Research Scholar	RUNGTA COLLEGE OF SCIENCE AND TECHNOLOGY BHILAI
Kiran Tiwari	kirantiwaricg@gmail.com	Faculty	GD Rungta College of Science and Technology, Bhilai
Chetna sahu	chetna14.bhilai@gmail.com	Faculty	GDR CST bhilai
Ritika Awasthi	ritika.awasthy@rungta.ac.in	Research Scholar	GD RUNGTA COLLEGE OF SCIENCE AND TECHNOLOGY BHILAI
Kiran Rai	kiranrakesh.rai@gmail.com	Research Scholar	Kalyan P.G.college bhilai
Dr Sushma Shrivastava	rajneeshsri.rs@gmail.com	Faculty	GD Rungta College of Science and Technology
Dimple chandrakar	dimplechandrakar11@gmail.com	PG Student	Govt v.y.t.p.g.autonomous college durg(C.G.)
TILAK KUMAR CHANDRAKAR	chandrakartilak12@gmail.com	PG Student	Govt. V. Y. T. PG Autonomous College Durg , CG
Dr. Sushma Shrivastava	rajnishshrivastava@gmail.com	Faculty	G. D. R. C. T
Seema Sinha	seemasinha932002@gmail.com	PG Student	Govt v y t pg autonomous college durg
Shreya Dewangan	shreyadewangan09@gmail.com	PG Student	Govt. V.Y.T. P.G. Autonomous college durg
Leena deshmukh	deshmukhleena335@gmail.com	PG Student	Science college durg
Rajshree khare	Kharerajshri232@gmail.com	PG Student	Govt. VYT. PG. Autonomous clg durg
Nishi jain	771nishijain@gmail.com	PG Student	Govt. VYT.PG.Autonomous college durg
SAROJ NAYYAR	sarojnayyar2007@gmail.com	Faculty	GD RUNGTA college of science and technology bhilai
Shruti shukla	shruti.shukla0293@gmail.com	Research Scholar	GOVT. V. Y. T. P G. COLLEGE, DURG

Pictures of the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Date: 06/07/2023

Topic: Day-01: Introduction to MATLAB & Basic Mathematical Operations

Subject Expert: Dr. Amit Kumar Biswas & Dr. Shraddha Rajput



Pictures of the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Date: 07/07/2023

Topic: Day-02: Operations on Vectors & Matrices

Subject Expert: Dr. Amit Kumar Biswas & Pratik Singh Thakur

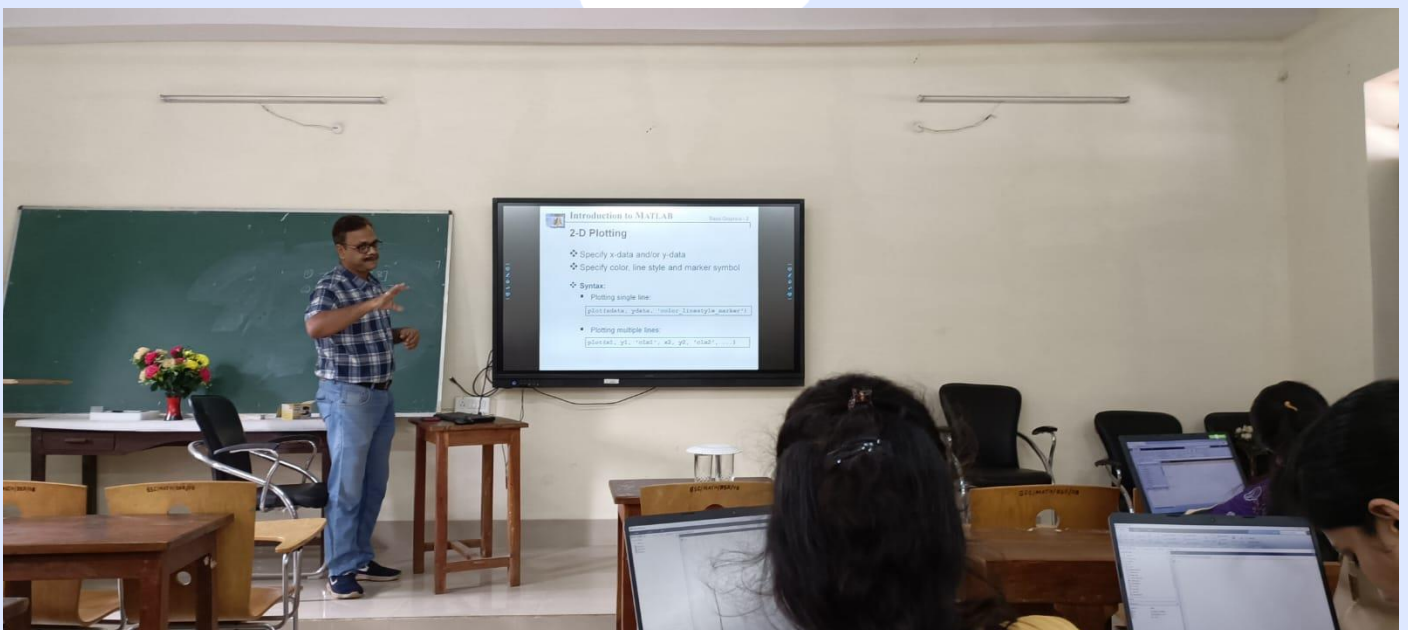
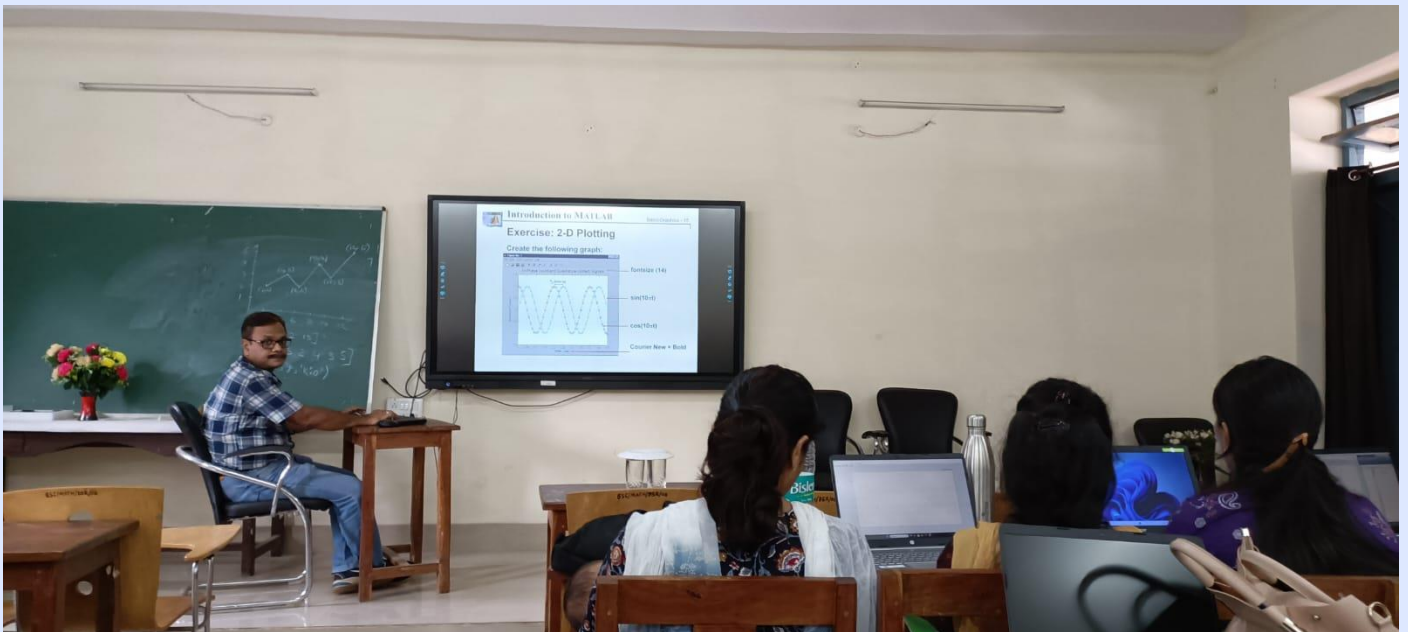


Pictures of the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Date: 08/07/2023

Topic: Day-03: 2D Plotting

Subject Expert: Dr. Amit Kumar Biswas & Dr. Shraddha Rajput

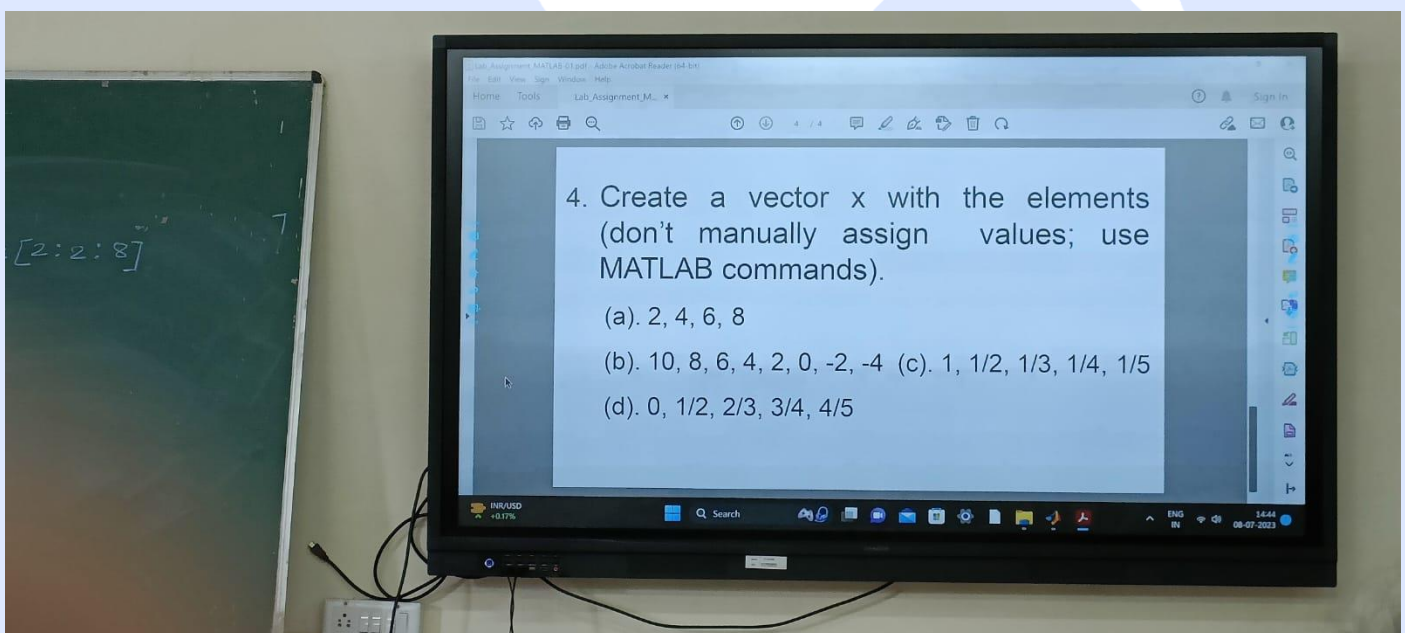
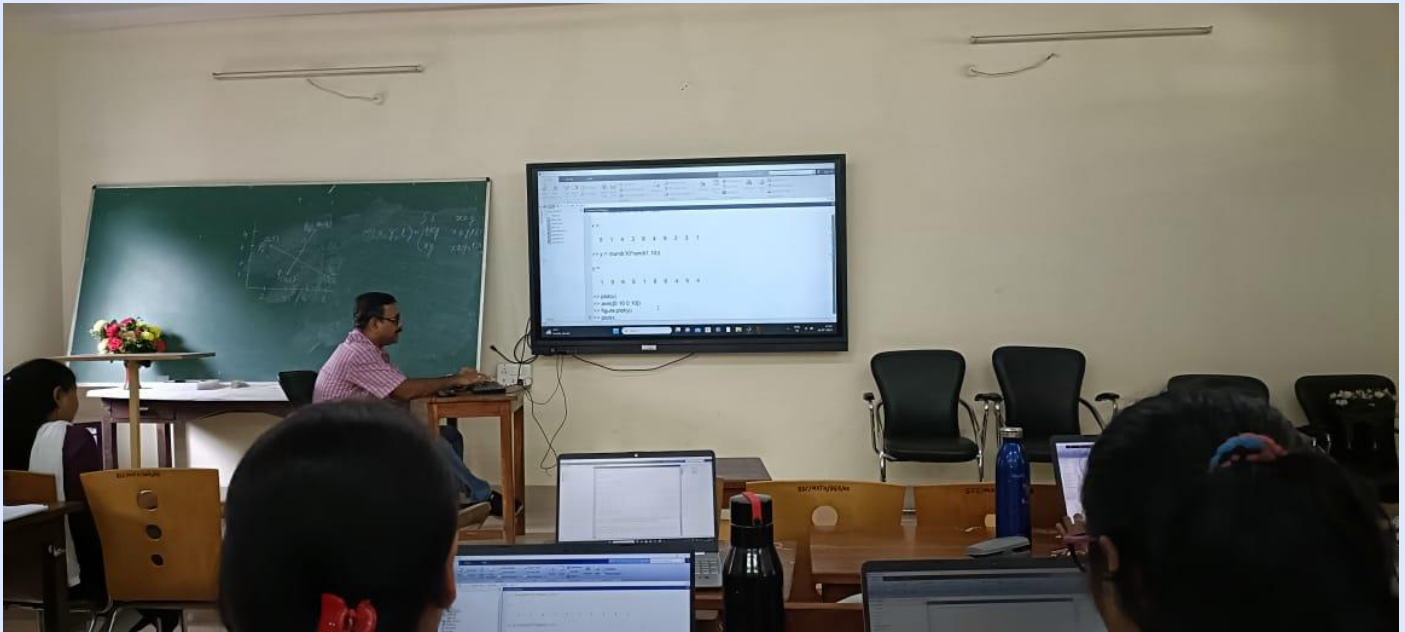


Pictures of the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Date: **09/07/2023**

Topic: Day-04: MATLAB Programming Scripting & Function

Subject Expert: Dr. Amit Kumar Biswas & Pratik Singh Thakur



Pictures of the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Date: 10/07/2023

Topic: Day-05: Live Application of MATLAB in your research

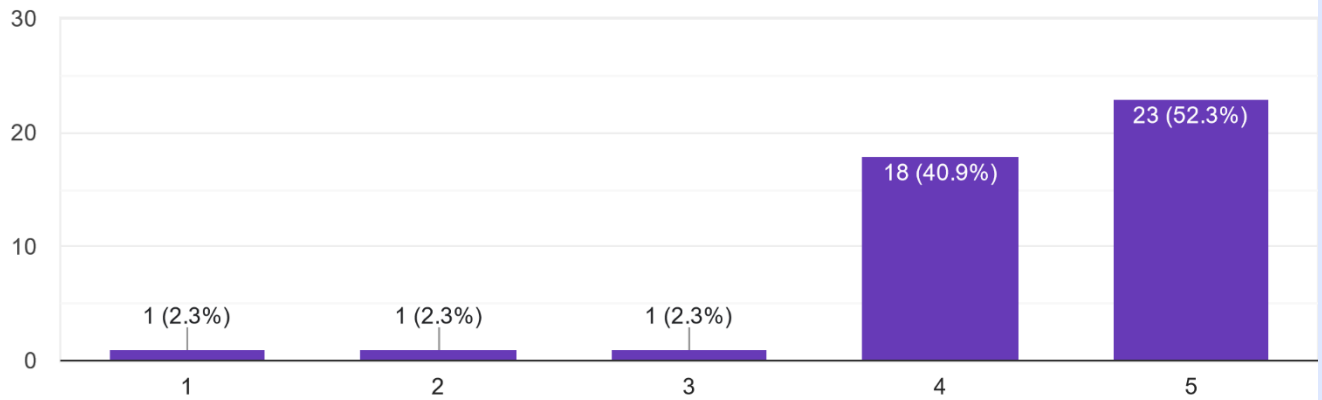
Subject Expert: Dr. Amit Kumar Biswas & Dr. Shraddha Rajput



Feedback to the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

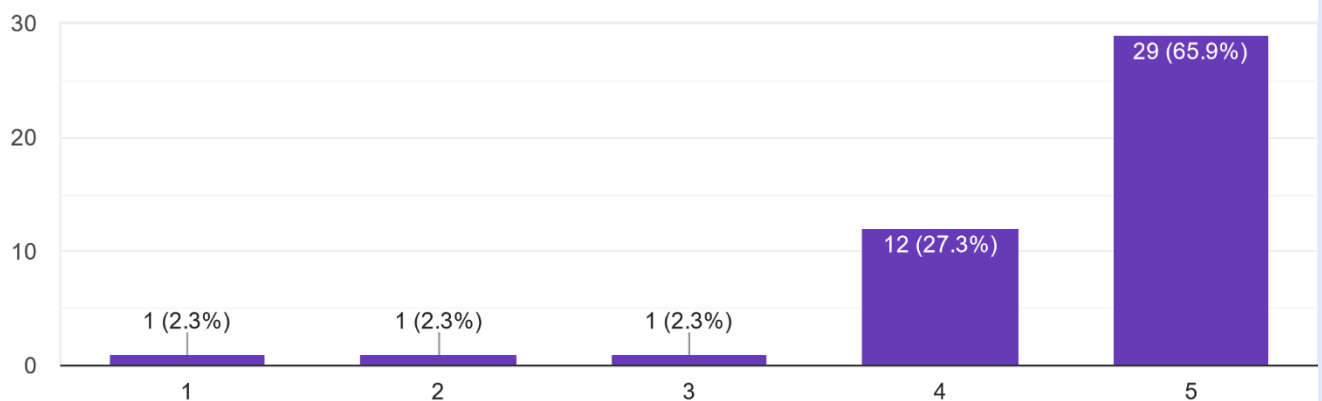
How would you rate your overall experience at the MATLAB Workshop?

44 responses



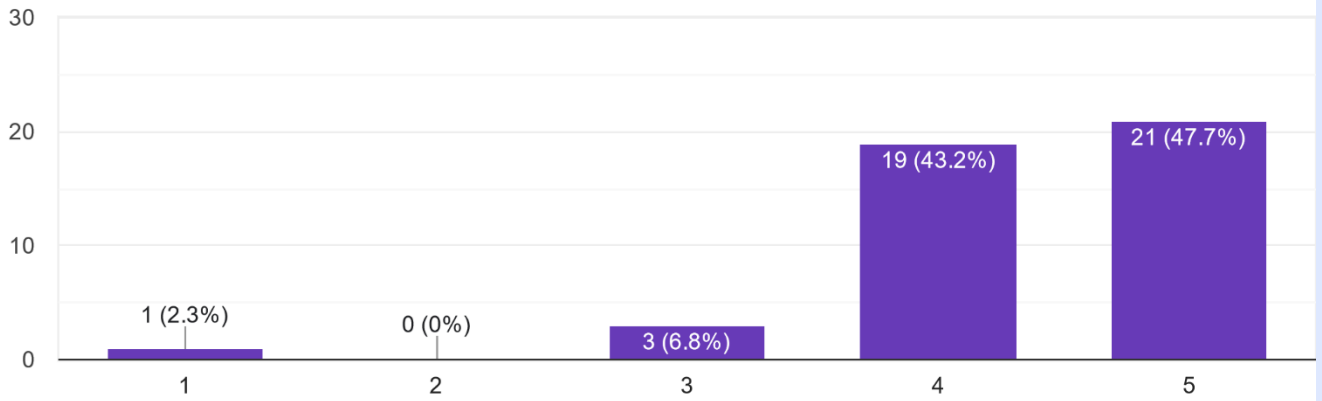
How would you rate the speaker's expertise in MATLAB and their ability to deliver effective presentations?

44 responses



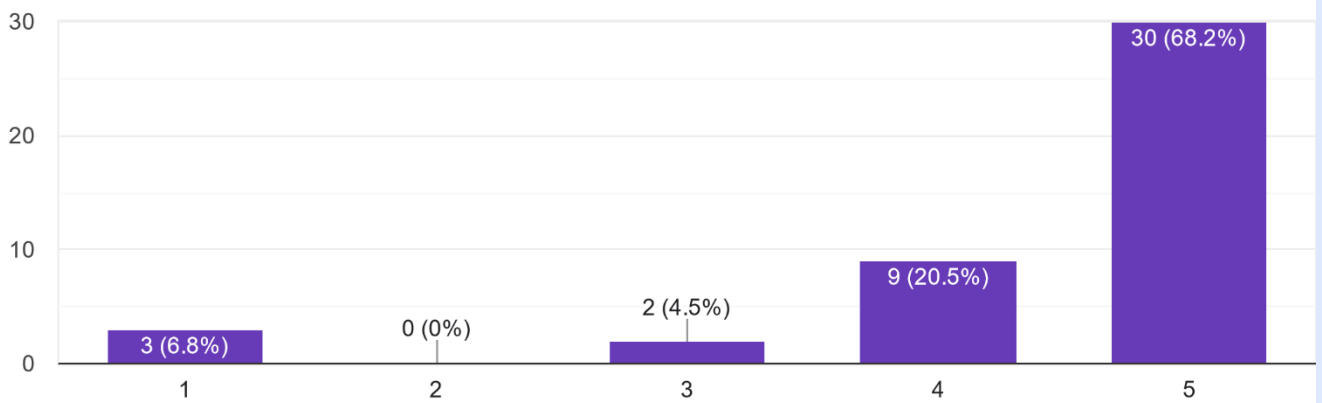
How would you rate the relevance and clarity of the workshop content?

44 responses



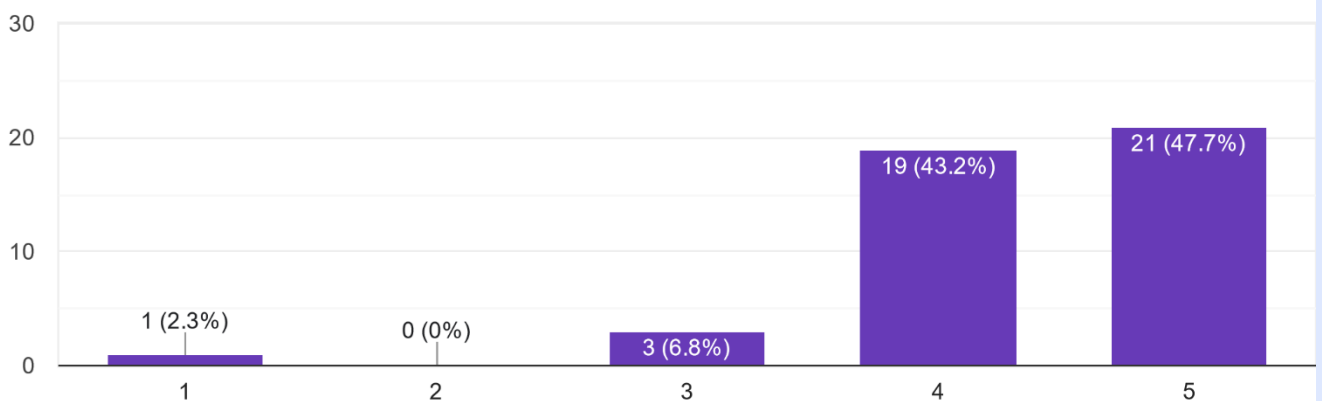
How would you rate the organization of the workshop in terms of time management and logistics?

44 responses



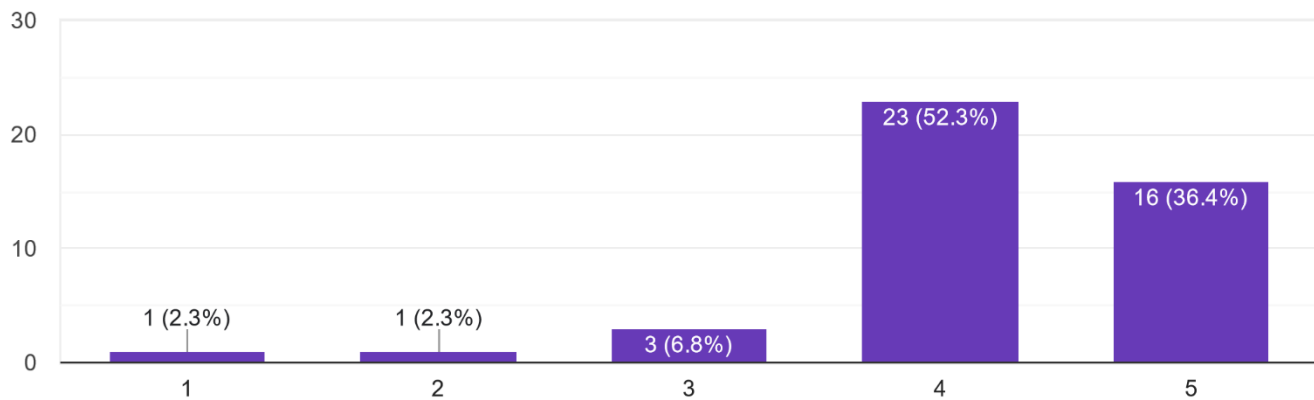
How would you rate the relevance and clarity of the workshop content?

44 responses



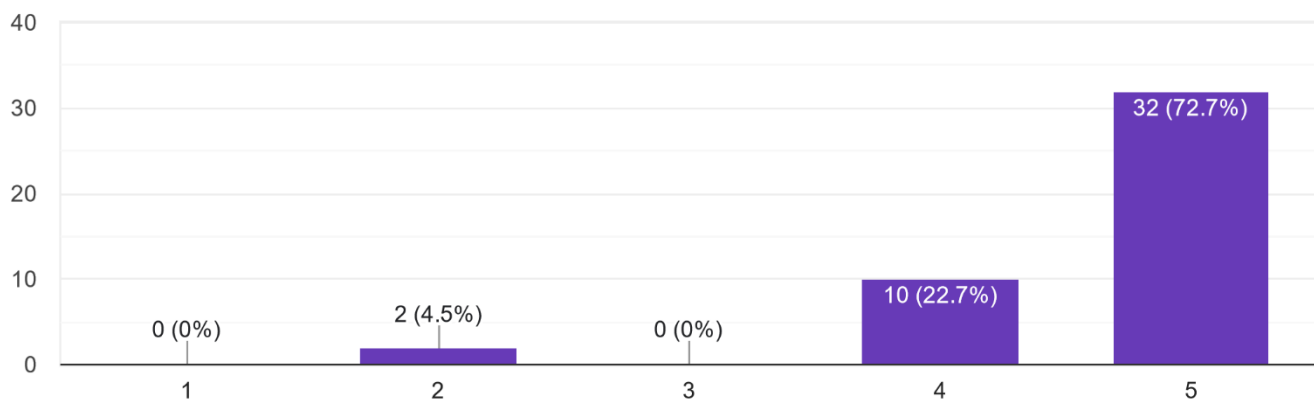
How would you rate the potential practical application of the workshop content in your work or studies?

44 responses



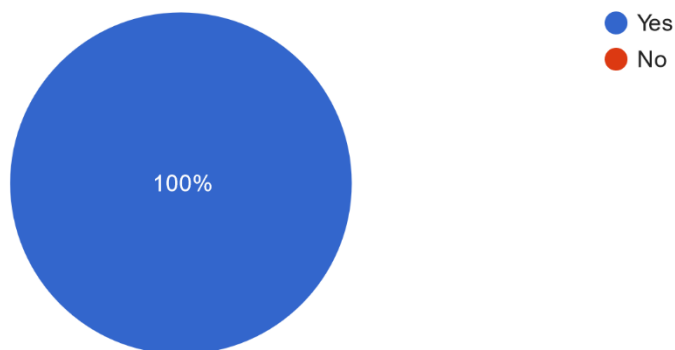
How likely are you to recommend this workshop to others?

44 responses



Do you think that MATLAB should be included in the syllabus?

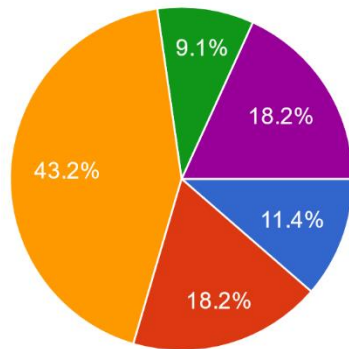
44 responses



Feedback to the Workshop on “MATLAB: APPLICATIONS IN SCIENCES”

Which topic you like the most

44 responses



- Day-01: Introduction to MATLAB & Basic Mathematical Operations
- Day-02: Operations on Vectors & Matrices
- Day-03: 2D Plotting
- Day-04: MATLAB Programming Scripting & Function
- Day-05: Live Application of MATLAB in your research

Suggestions from the participants:

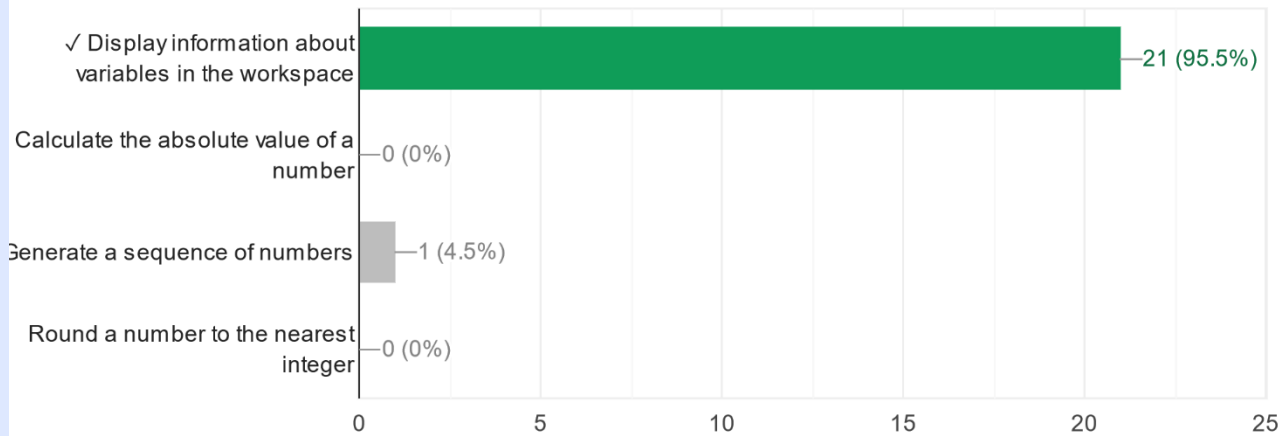
(19 responses)

- No
- Conduct this workshop every year
- Everything is good
- If the possible more assistant should come on the time of workshop.
- Everything is well organised.
- In future again organised such workshop for more days
- It was so good workshop
- It should be include in our syllabus.
- Super
- Nice session
- It should be organised online so that more and more people would be benefited by it.
- It should be included in syllabus as well
- Workshop is very good for me
- Nice workshop
- As Matlab is the 4th generation language so it should be included in syllabus of masters degree.
- More concept of programming

Quiz Result of the Workshop on "MATLAB: APPLICATIONS IN SCIENCES"

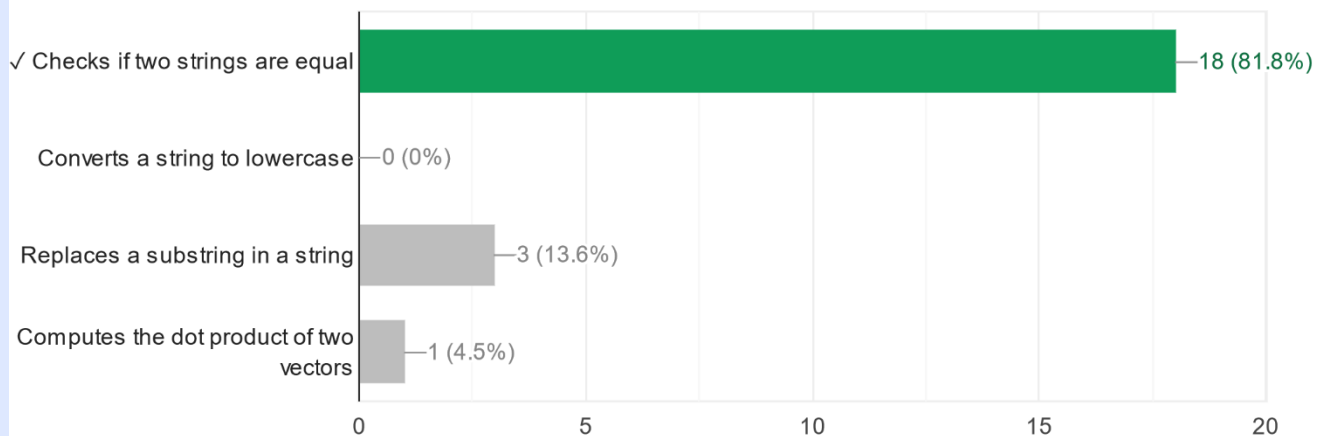
What is the purpose of the whos() function in MATLAB?

21 / 22 correct responses



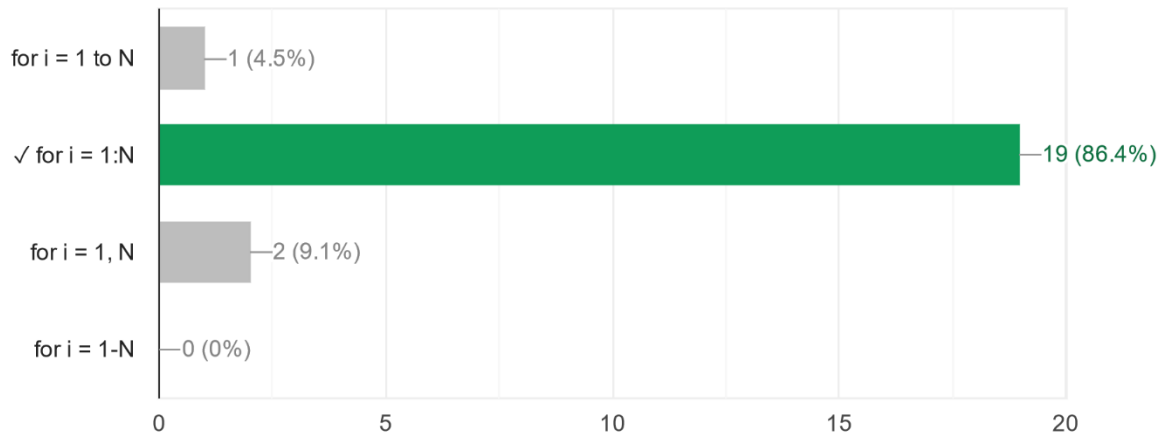
In MATLAB, what does the function strcmp(s, p) do?

18 / 22 correct responses



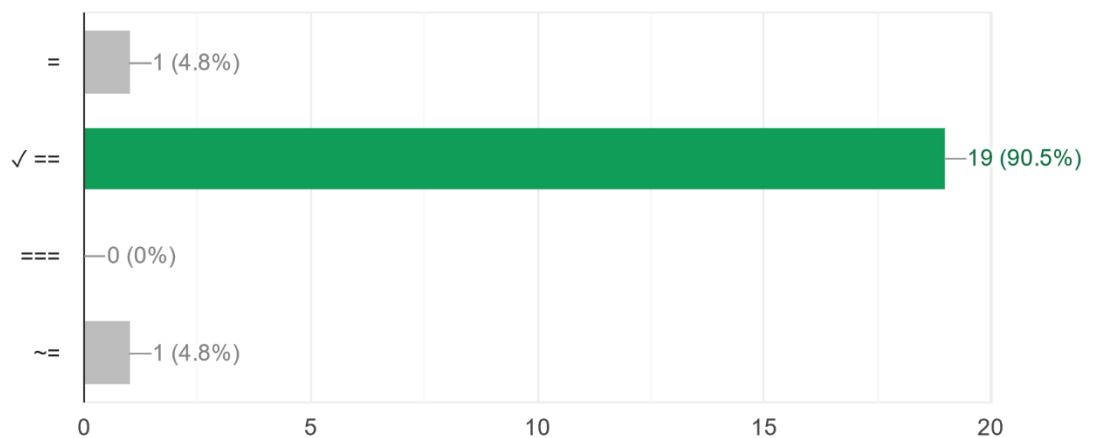
What is the syntax for a basic for loop in MATLAB?

19 / 22 correct responses



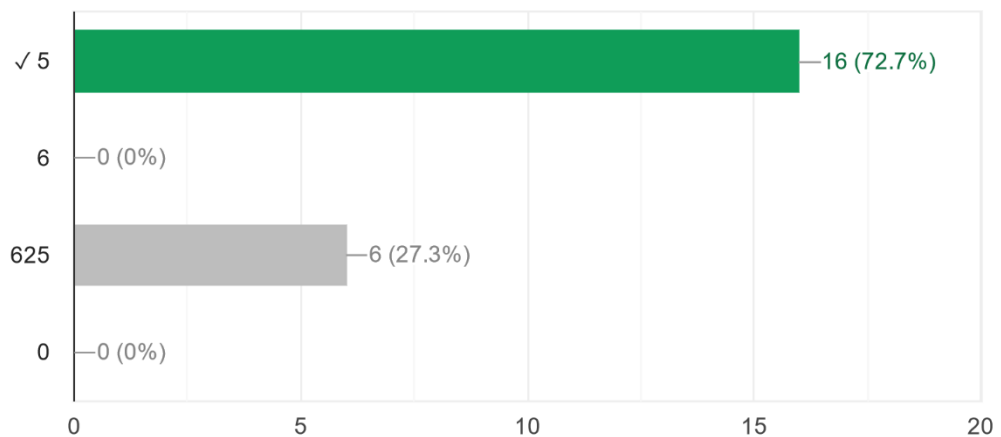
Which symbol is used for equality comparison in MATLAB?

19 / 21 correct responses



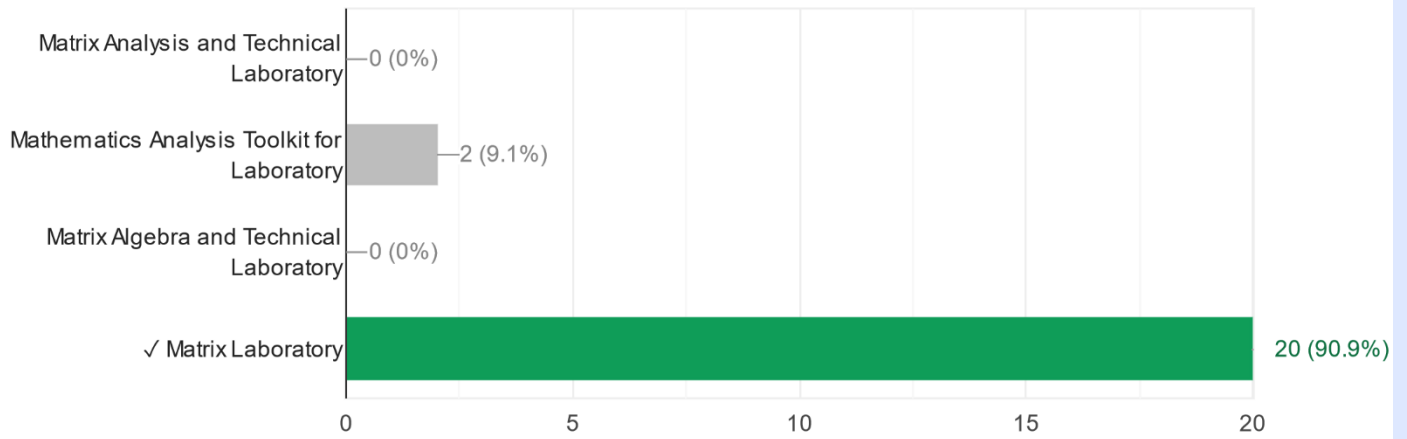
What does the expression sqrt(25) evaluate to in MATLAB?

16 / 22 correct responses



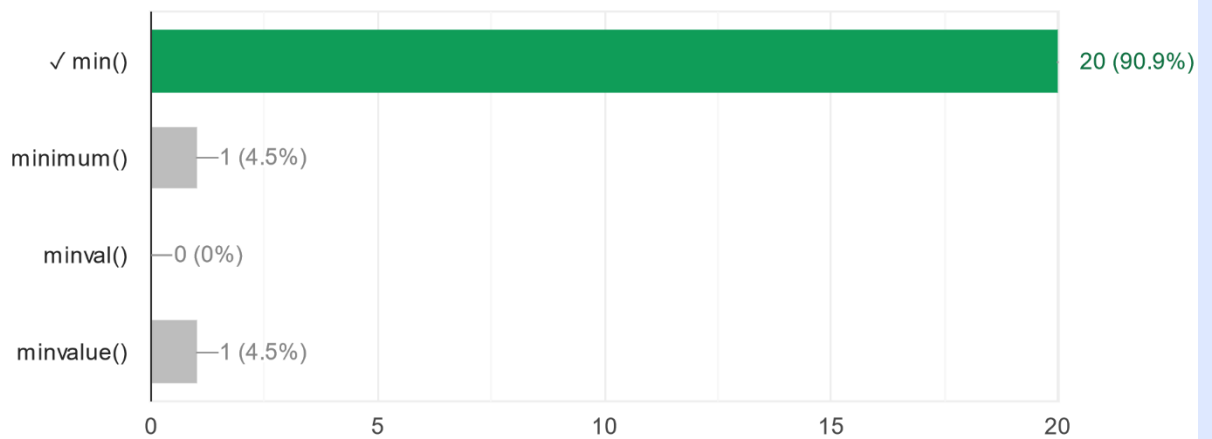
What does the acronym MATLAB stand for?

20 / 22 correct responses



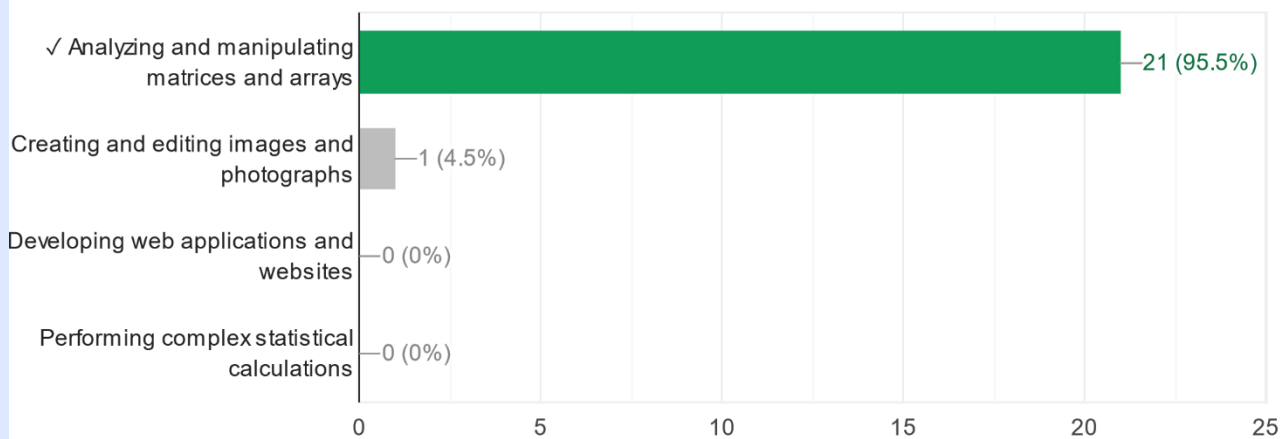
Which MATLAB function is used to find the minimum value in an array?

20 / 22 correct responses



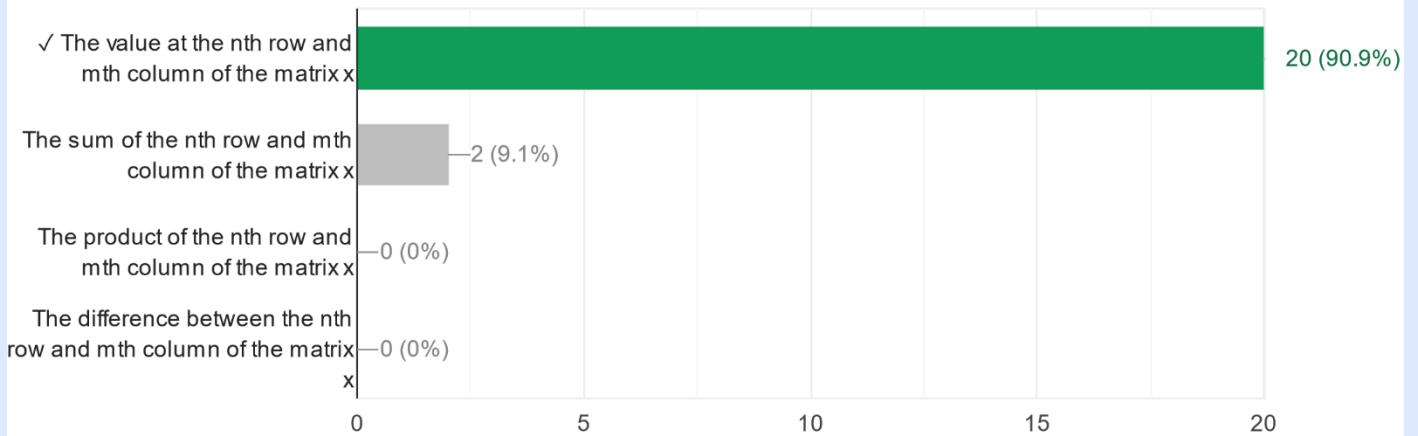
What is the primary use of MATLAB?

21 / 22 correct responses



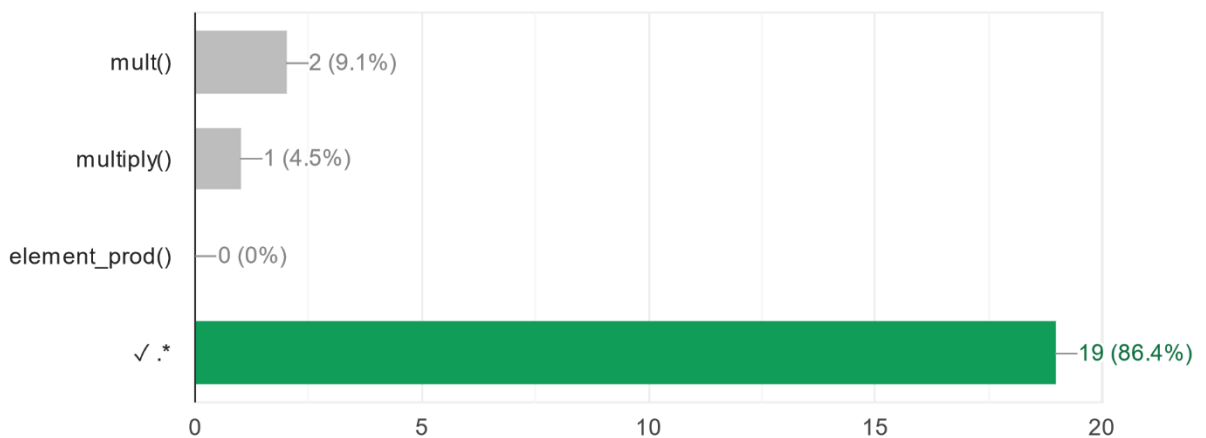
In MATLAB, what does the expression $x(n, m)$ represent?

20 / 22 correct responses



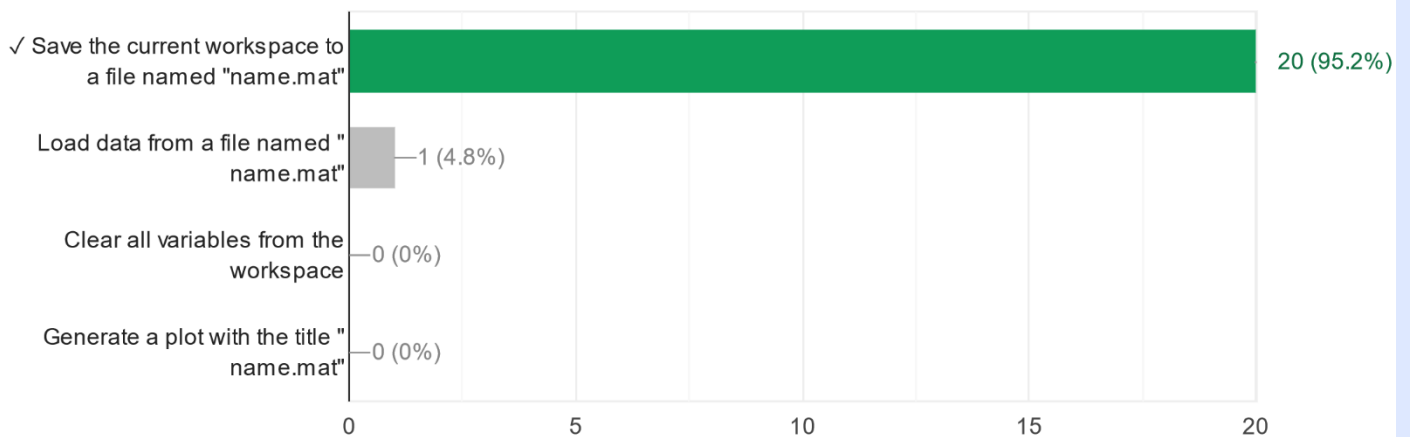
Which command is used to calculate the element-wise product of two matrices in MATLAB?

19 / 22 correct responses



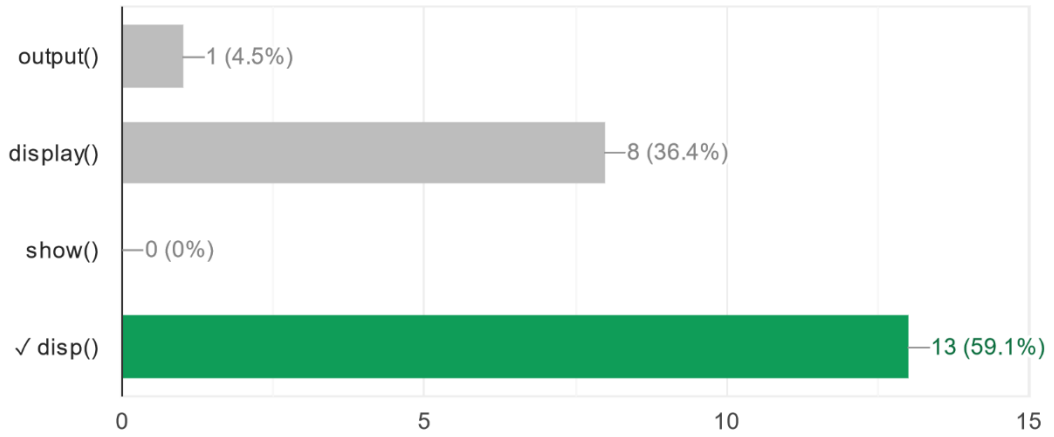
What is the purpose of the command save name.mat in MATLAB?

20 / 21 correct responses



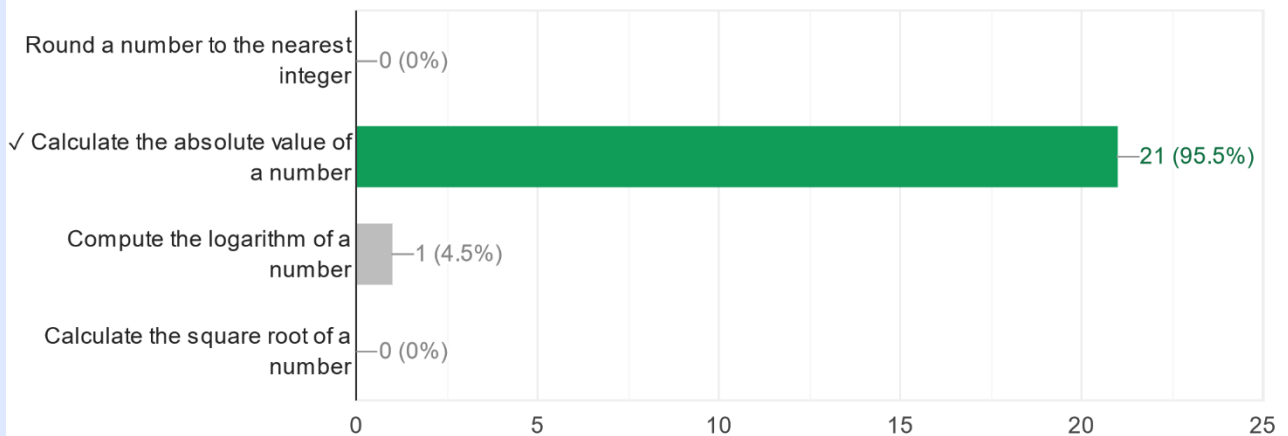
Which command is used to display a message or variable value in MATLAB?

13 / 22 correct responses



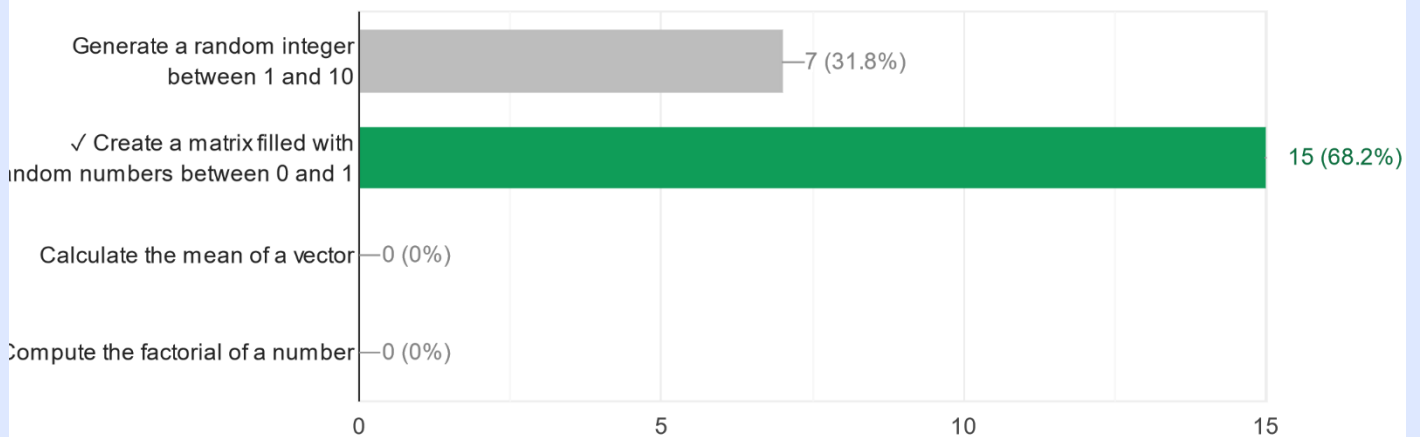
What is the purpose of the abs() function in MATLAB?

21 / 22 correct responses



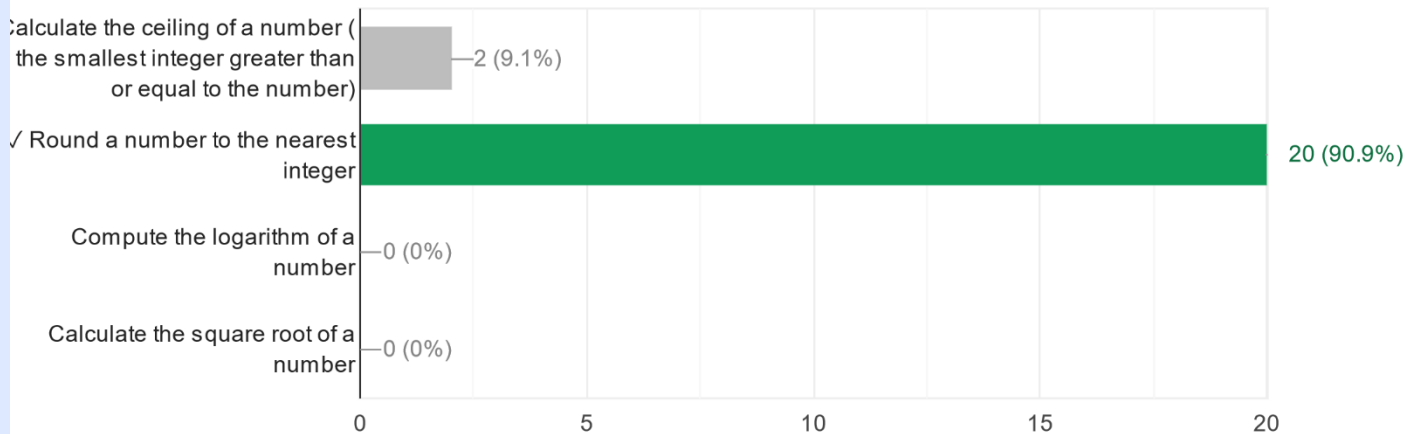
In MATLAB, what does the function rand() do?

15 / 22 correct responses



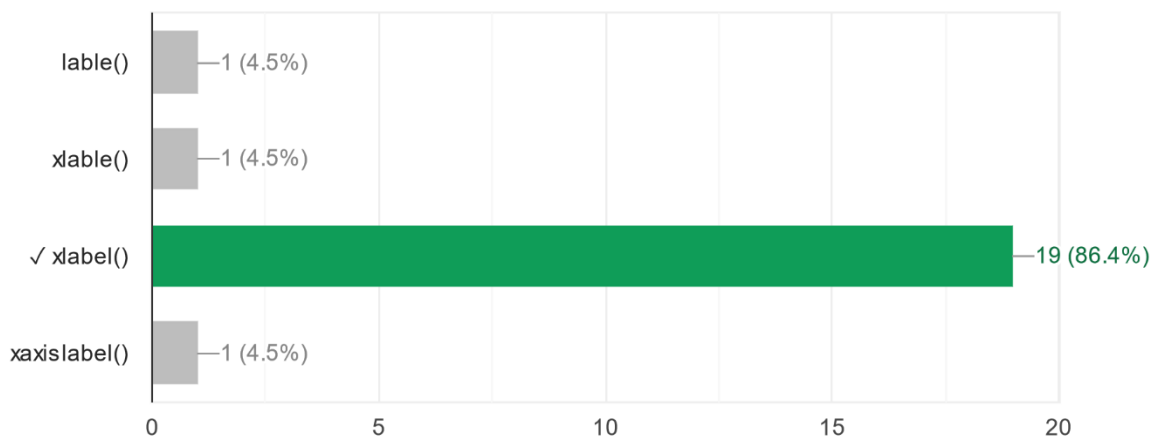
What is the purpose of the round() function in MATLAB?

20 / 22 correct responses



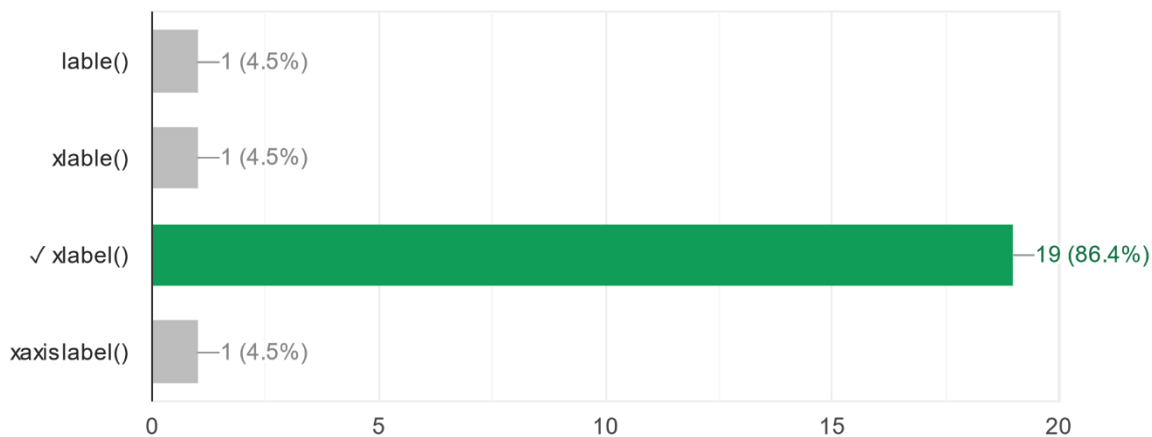
Which command is used to label the x-axis of a plot in MATLAB?

19 / 22 correct responses



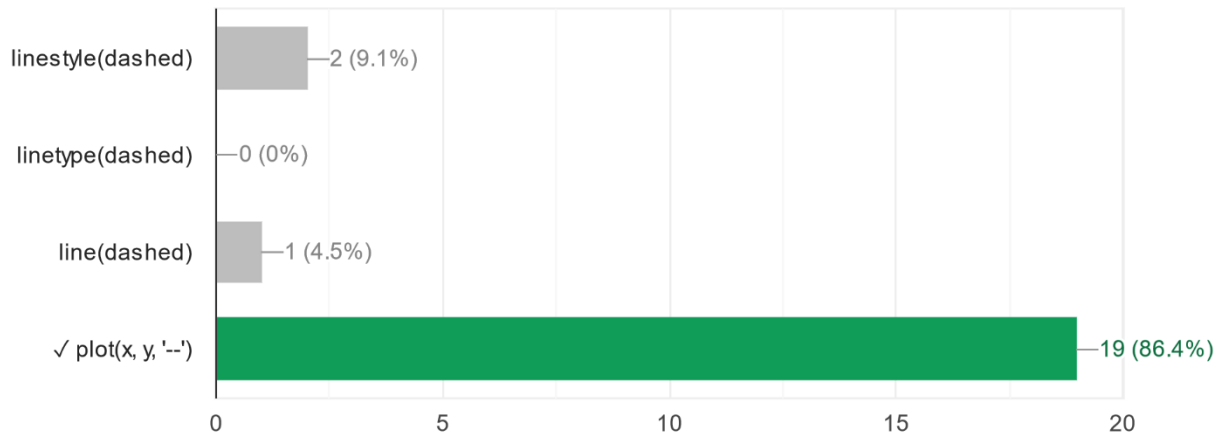
Which command is used to label the x-axis of a plot in MATLAB?

19 / 22 correct responses



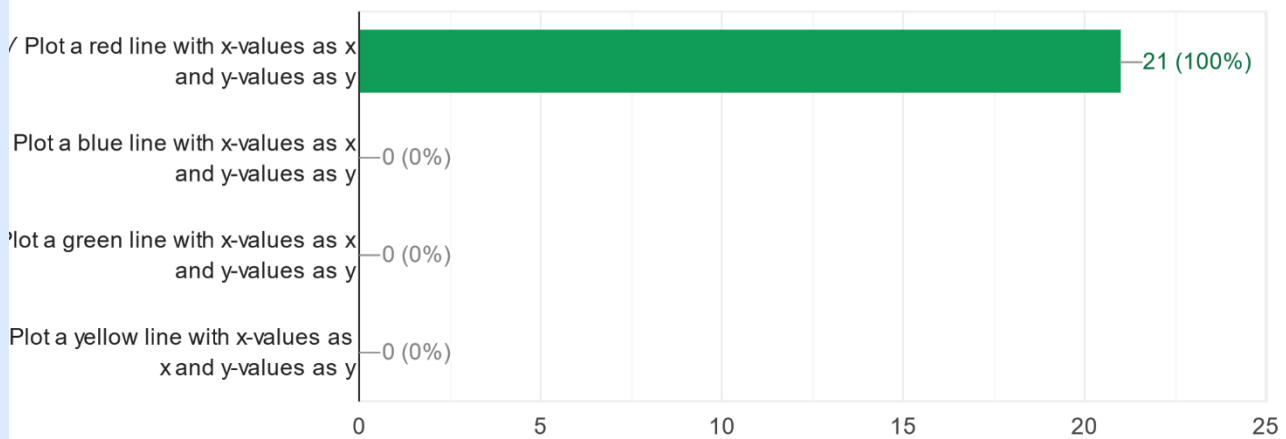
How do you plot a dashed line in MATLAB?

19 / 22 correct responses



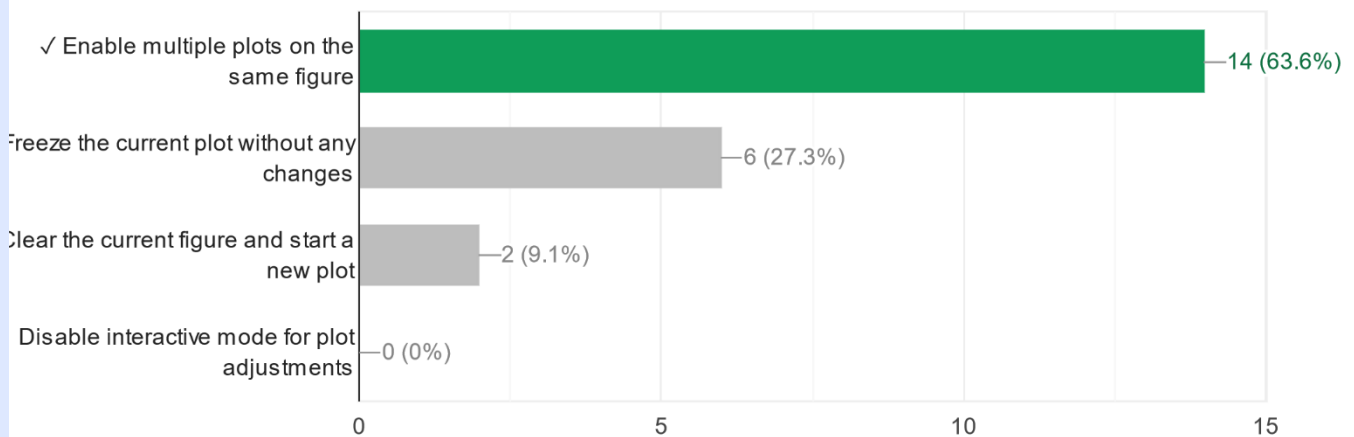
What does the command plot(x, y, 'r') do in MATLAB?

21 / 21 correct responses



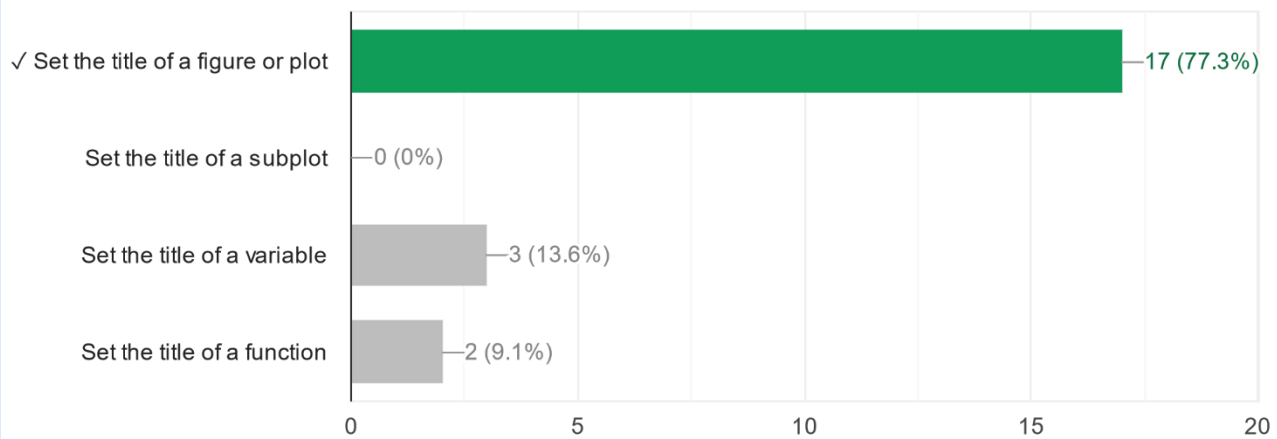
What is the purpose of the command hold on in MATLAB?

14 / 22 correct responses



What is the purpose of the command title() in MATLAB?

17 / 22 correct responses



S.N.	Email	Score (max 20)
1	just4mangla@gmail.com	17
2	chetna14.bhilai@gmail.com	18
3	sona.godbole1@gmail.com	15
4	rajesh.patel@bitdurg.ac.in	15
5	kirantiwaricg@gmail.com	19
6	goldvikash@gmail.com	12
7	stcnkg9607@gmail.com	17
8	shashithakur89520@gmail.com	18
9	itisao5696@gmail.com	17
10	19yamini1997@gmail.com	17
11	jayshrivas95@gmail.com	13
12	seemasinha932002@gmail.com	17
13	dimplechandrakar11@gmail.com	18
14	deshmukhleena335@gmail.com	18
15	ritika.awasthy@runga.ac.in	18
16	jugalsahu2604@gmail.com	20
17	tuleshwariverma213@gmail.com	20
18	tusharthakur11008@gmail.com	19
19	prashantdayal25@gmail.com	19
20	chandrakartilak12@gmail.com	20
21	rupasao11@gmail.com	5
22	manishanishad529@gmail.com	20