

MATLAB Total Academic Headcount Technická univerzita v Košiciach

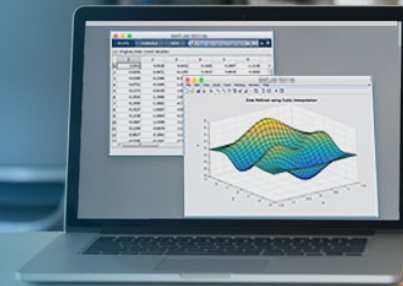
```
% Create a device object to communicate with the instrument  
d = icdevice('tektronix_tds2024', gpib('ni',0, 1));
```

```
% Connect to the instrument  
connect(d);
```

```
% Get information about the instrument  
d, 'Ch
```

```
% Create a device object to communicate with the instrument  
d = icdevice('tektronix_tds2024', gpib('ni',0, 1));
```

```
% Connect to the instrument
```



>> $x=A \backslash b$

Martin Foltin
foltin@humusoft.sk

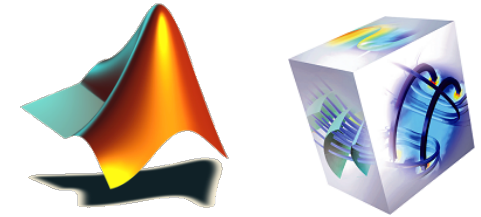
Michal Blaho
blaho@humusoft.sk

www.humusoft.sk
info@humusoft.sk

www.mathworks.com

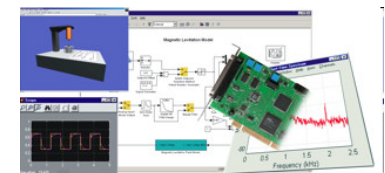
HUMUSOFT s.r.o.

- Založené v roku 1990, sídlo v Prahe, pobočka v Bratislave
- MATLAB, Simulink, Stateflow
 - Inžinierske výpočty, simulácia dynamických systémov
 - The MathWorks, Inc.
- dSPACE - vývojové systémy
 - dSPACE GmbH.
- COMSOL Multiphysics
 - Otvorený systém pre multifyzikálnu analýzu (metóda FEM)
 - Prepojenie s MATLABom
 - Comsol AB
- Vývoj vlastného softvéru a hardvéru
 - Simulink 3D Animation, Simulink Desktop Real Time
 - Meracie karty (MF 644)
 - Modely pre výučbu teórie riadenia
- Výkonné pracovné stanice HeavyHorse
 - Multiprocessorové stanice pre High-Performance Computing
 - Optimalizované pre MDCS a Parallel Computing Toolbox



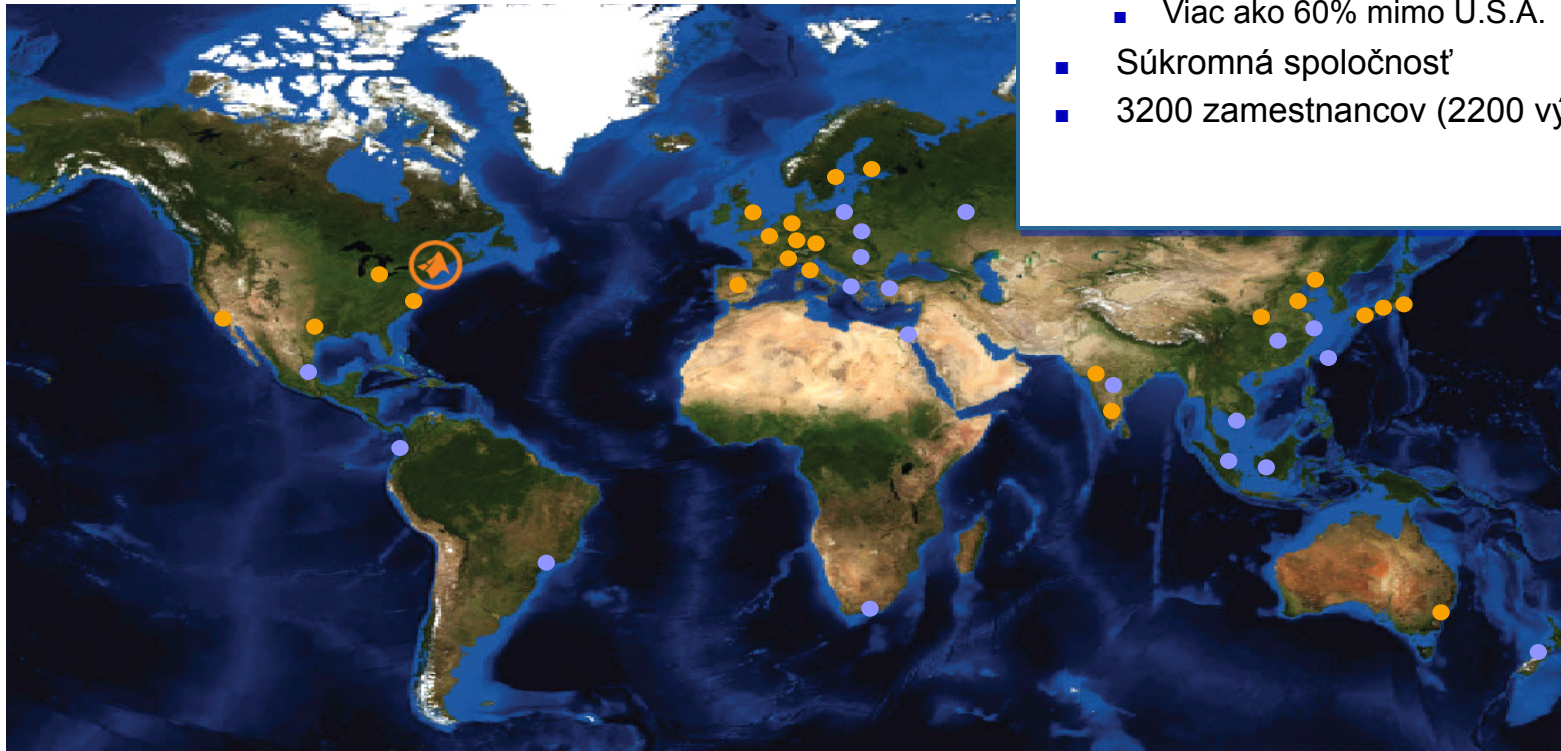
dSPACE

COMSOL



MathWorks

- Obrat v roku 2017: ~\$900M USD
 - Viac ako 60% mimo U.S.A.
- Súkromná spoločnosť
- 3200 zamestnancov (2200 vývoj)



Topografie Země v cylindrické projekci, vytvořeno s použitím programu MATLAB a Mapping Toolboxu.

- **Sídlo:**
Natick, Massachusetts U.S.
- **Kancelárie v USA:**
California; Michigan;
Texas; Washington, D.C.
- **Európa:**
Francúzsko, Nemecko, Taliansko,
Holandsko, Španielsko, Švédsko,
Švajčiarsko, Veľká Británia
- **Ázia / Pacifik:**
Austrália, Čína, India,
Japonsko, Kórea
- Distribútori v 20 krajinách

Používa niekto z vás MATLAB?

Ktorú verziu?

Ktoré rozšírenia?

MATLAB, Simulink, Toolboxy

- MATLAB
 - Integrované prostredie pre vedeckotechnické výpočty
 - Grafické a výpočtové nástroje
 - Rýchle výpočtové jadro
 - Programovací jazyk 4. generácie
 - Grafické užívateľské rozhranie (GUI)
 - MATLAB je otvorený systém
- Simulink
 - Nadstavba MATLABu
 - Modelovanie, simulácie a analýza dynamických systémov
 - Prostredie blokových schém
 - Prvky pre tvorbu diferenciálnych a diferenčných rovníc
 - Platforma pro Model Based Design
- Toolboxy a blocksety

Štatistika a optimalizácia

Spracovanie signálov a komunikácie

Spracovanie obrazu

Finančná analýza

Výpočtová biológia

Neuronové siete, fuzzy

Modelovanie fyzikálnych sústav

Navrh riadiacich systémov

Systémy diskretných udalostí

Meranie a testovanie

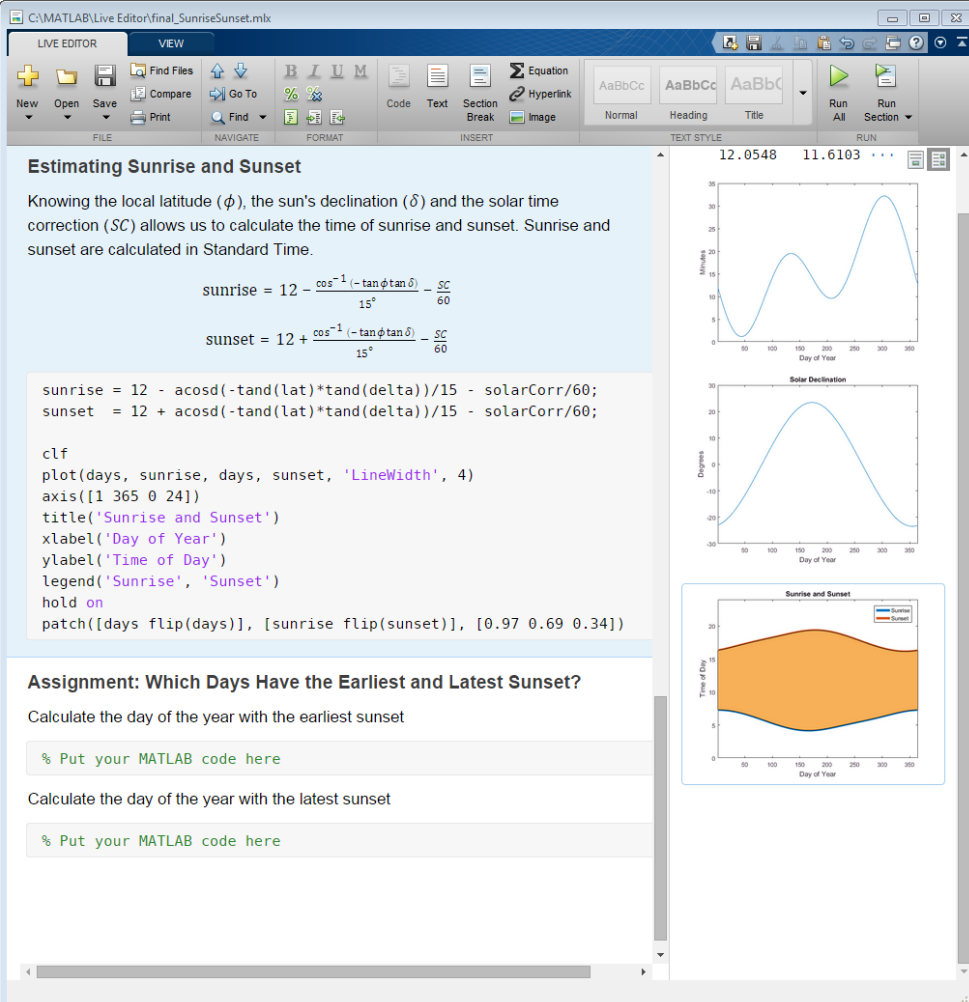
Tvorba aplikácií

Generovanie kódu (RT a embedded)

Showing: Simulink/Continuous

MATLAB Live editor

- Písanie, editovanie a spúšťanie kódu v jednom interaktívnom prostredí
- Generovanie výstupov a grafiky popri kóde
- Pridávanie textu, LaTeX vzorcov, obrázkov a odkazov na podporné materiály
- Zdieľanie – spustiteľný dokument, PDF, HTML
- Tvorba interaktívnych prednášok a prezentácií



Estimating Sunrise and Sunset

Knowing the local latitude (ϕ), the sun's declination (δ) and the solar time correction (SC) allows us to calculate the time of sunrise and sunset. Sunrise and sunset are calculated in Standard Time.

$$\text{sunrise} = 12 - \frac{\cos^{-1}(-\tan\phi\tan\delta) - \frac{SC}{60}}{15^\circ}$$

$$\text{sunset} = 12 + \frac{\cos^{-1}(-\tan\phi\tan\delta) - \frac{SC}{60}}{15^\circ}$$

```
sunrise = 12 - acosd(-tand(lat)*tand(delta))/15 - solarCorr/60;
sunset = 12 + acosd(-tand(lat)*tand(delta))/15 - solarCorr/60;

clf
plot(days, sunrise, days, sunset, 'LineWidth', 4)
axis([1 365 0 24])
title('Sunrise and Sunset')
xlabel('Day of Year')
ylabel('Time of Day')
legend('Sunrise', 'Sunset')
hold on
patch([days flip(days)], [sunrise flip(sunset)], [0.97 0.69 0.34])
```

Assignment: Which Days Have the Earliest and Latest Sunset?

Calculate the day of the year with the earliest sunset

% Put your MATLAB code here

Calculate the day of the year with the latest sunset

% Put your MATLAB code here

The screenshot displays three plots on the right side of the editor:

- Top Plot:** A line graph showing sunrise and sunset times in minutes over the course of a year. The x-axis is 'Day of Year' (0-365) and the y-axis is 'Minutes' (0-30). Sunrise is shown as a blue line and sunset as a red line.
- Middle Plot:** A line graph titled 'Solar Declination' showing the sun's declination in degrees over the course of a year. The x-axis is 'Day of Year' (0-365) and the y-axis is 'Degrees' (-30 to 30).
- Bottom Plot:** A shaded area plot titled 'Sunrise and Sunset' showing the time of day for sunrise and sunset. The x-axis is 'Day of Year' (0-365) and the y-axis is 'Time of Day' (0-20). The area between the sunrise and sunset lines is shaded orange.

- Webinár – <http://www.humusoft.cz/events/www-seminars/>

MATLAB

– využitie počas celého štúdia ... aj potom

Stredné školy

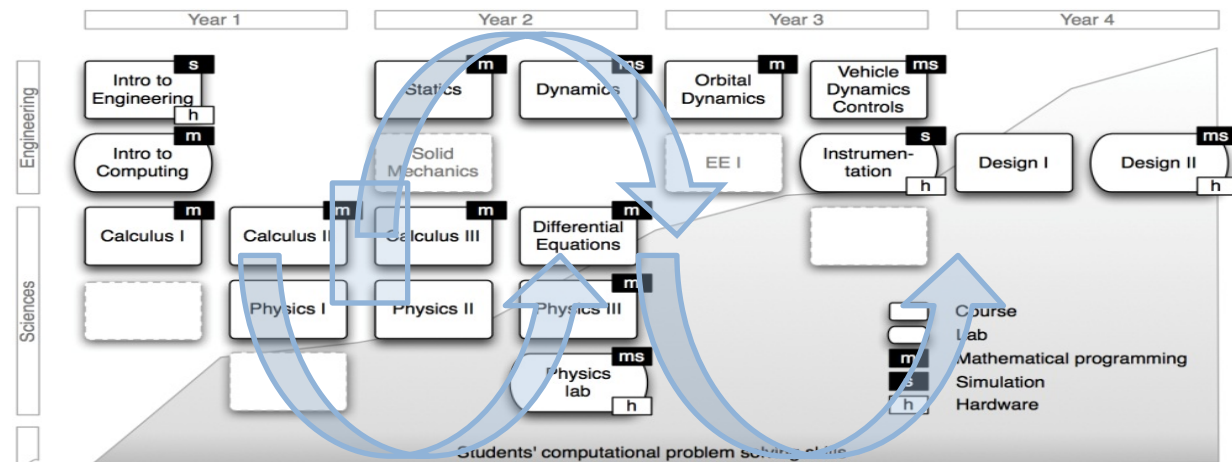
Univerzita

Výskum

Prax

MATLAB – využitie počas celého štúdia

- MATLAB nie je len “Matematický software”, je to univerzálny **inžiniersky nástroj** pre technické výpočty a simulácie
- Veľký potenciál využitia počas celého štúdia v niekoľkých odboroch a predmetoch
- Jeden nástroj – odstráni duplicitu pri výučbe rôznych nástrojov
- Možnosť prepojenia s inými aplikáciami a spolupráca s rôznymi dátovými formátmi
- Model Based Design
- Projektovo orientované vzdelávanie



MATLAB – nasadenie v rôznych oblastiach

- **Matematika** – symbolická matematika, numerická matematika, vizualizácia funkcií, machine learning
- **Fyzika** – spracovanie dát z experimentov, štatistika, grafická reprezentácia
- **Spracovanie obrazu** – fotografia, videozáznam
- **Dynamické systémy** – analýza, návrh riadiacich algoritmov, prepojenie s reálnymi objektami
- **Spracovanie signálov** – filtrácia
- **Fyzikálne modelovanie** – hydraulika, mechanika, elektrotechnika
- **Umelá inteligencia** – fuzzy, neurónové siete, deep learning
- **Ekonomické vedy** – risk management, ekonometria, prepojenie s Bloomberg a Yahoo finance
- **Implementácia na HW** – IoT, PLC, Arduino, Raspberry Pi, LEGO, Xilinx, Intel ...
- **Udalostné systémy** – návrh riadiacich algoritmov, prepojenie s PLC
- **Big Data**
- **Paralelné výpočty**

MATLAB – nie je len „hračka pre vedcov“

- Profesionálny nástroj pre inžinierov
- Žiadaná zručnosť u zamestnávateľov
... áno aj v SR a ČR
- Nedostatok absolventov so znalosťou MATLABu

- Zamestnávatelia:

- Honeywell
- Continental
- Schaeffler
- Porsche
- Kistler
- ...

Akým spôsobom prebiehala implementácia MATLABu u vás vo firme?

Inštalácia toho, čo už využívame, bola veľmi jednoduchá. Stačilo nájsť človeka, ktorý vyštudoval prácu s MATLABom a za pár dní sme už mohli nabehnúť do rutinej prevádzky a začať údaje do systému zbierať a následne ich analyzovať.

Ronald Ižip – TRIM Broker

Kde sa používa MATLAB

SIEMENS

Honeywell

RRZ
RADA PRE ROZPOČTOVÚ
ZODPOVEDNOSŤ

a
sense
for **IEE**
innovation

Continental
The Future in Motion

TOYOTA

Henkel

TRIM ||| BROKER



AEROMOBIL



VONSCH
elektrické pohony



Slovnaft



PORSCHE

Danfoss
Innovation in Motion

Miba

SCHAEFFLER



CEIT



ZURICH

Allianz



MinebeaMitsumi
Passion to Create Value through Difference

KISTLER
measure. analyze. innovate.

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTEM



BOSCH



EMERSON

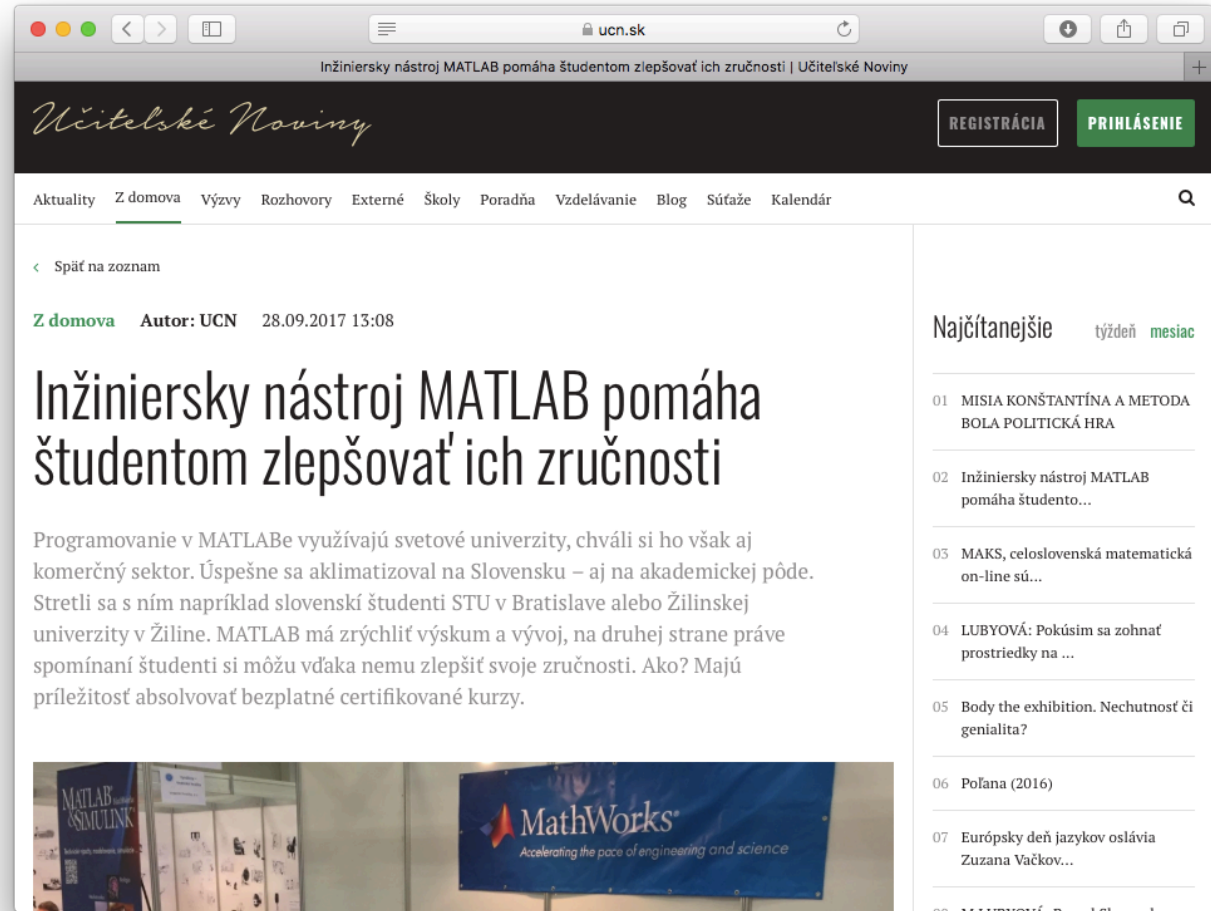
Ja som potreboval MATLAB vo veľmi skorej vývojovej fáze nového produktu (jedná sa o elektroniku s mikroprocesorom) našej firmy. V situácii keď sa domnievate, že o nový produkt môže byť potenciálny záujem sa firma snaží minimalizovať náklady na vývoj nového embedded softwaru potrebného pre ovládanie elektroniky. Na druhej strane potrebujete potenciálnemu zákazníkovi ukázať, že máte reálny produkt, ktorý treba dotiahnuť (dokončiť) ak má záujem. Samozrejme je to spojené aj s finančnými prostriedkami z jeho strany. MATLAB nám v tejto fáze poslúžil ako náhrada embedded softwaru. Elektronika poskytla surový signál, následne MATLAB signál spracoval, vyhodnotil a dal potrebný výstup (output). Celý návrh na spracovanie a vyhodnotenie signálu bol vyvinutý a otestovaný v MATLAB prostredí.

Ján Lipták
R&D
IEE Sensing Slovakia

Total Academic Headcount - TAH



STU

Inžiniersky nástroj MATLAB pomáha študentom zlepšovať ich zručnosti | Učiteľské Noviny

Učiteľské Noviny

REGISTRÁCIA PRIHLÁSENIE

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< Späť na zoznam

Z domova Autor: UCN 28.09.2017 13:08

Inžiniersky nástroj MATLAB pomáha študentom zlepšovať ich zručnosti

Programovanie v MATLABe využívajú svetové univerzity, chvália si ho však aj komerčný sektor. Úspešne sa aklimatizoval na Slovensku – aj na akademickej pôde. Stretli sa s ním napríklad slovenskí študenti STU v Bratislave alebo Žilinskej univerzity v Žiline. MATLAB má zrýchliť výskum a vývoj, na druhej strane práve spomínaní študenti si môžu vďaka nemu zlepšiť svoje zručnosti. Ako? Majú príležitosť absolvovať bezplatné certifikované kurzy.

Najčítanejšie týždeň mesiac

- MISIA KONŠTANTÍNA A METODA BOLA POLITICKÁ HRA
- Inžiniersky nástroj MATLAB pomáha študento...
- MAKS, celoslovenská matematická on-line sú...
- LUBYOVÁ: Pokúsím sa zohnať prostriedky na ...
- Body the exhibition. Nechutnosť či genialita?
- Poľana (2016)
- Európsky deň jazykov oslávia Zuzana Vačkov...

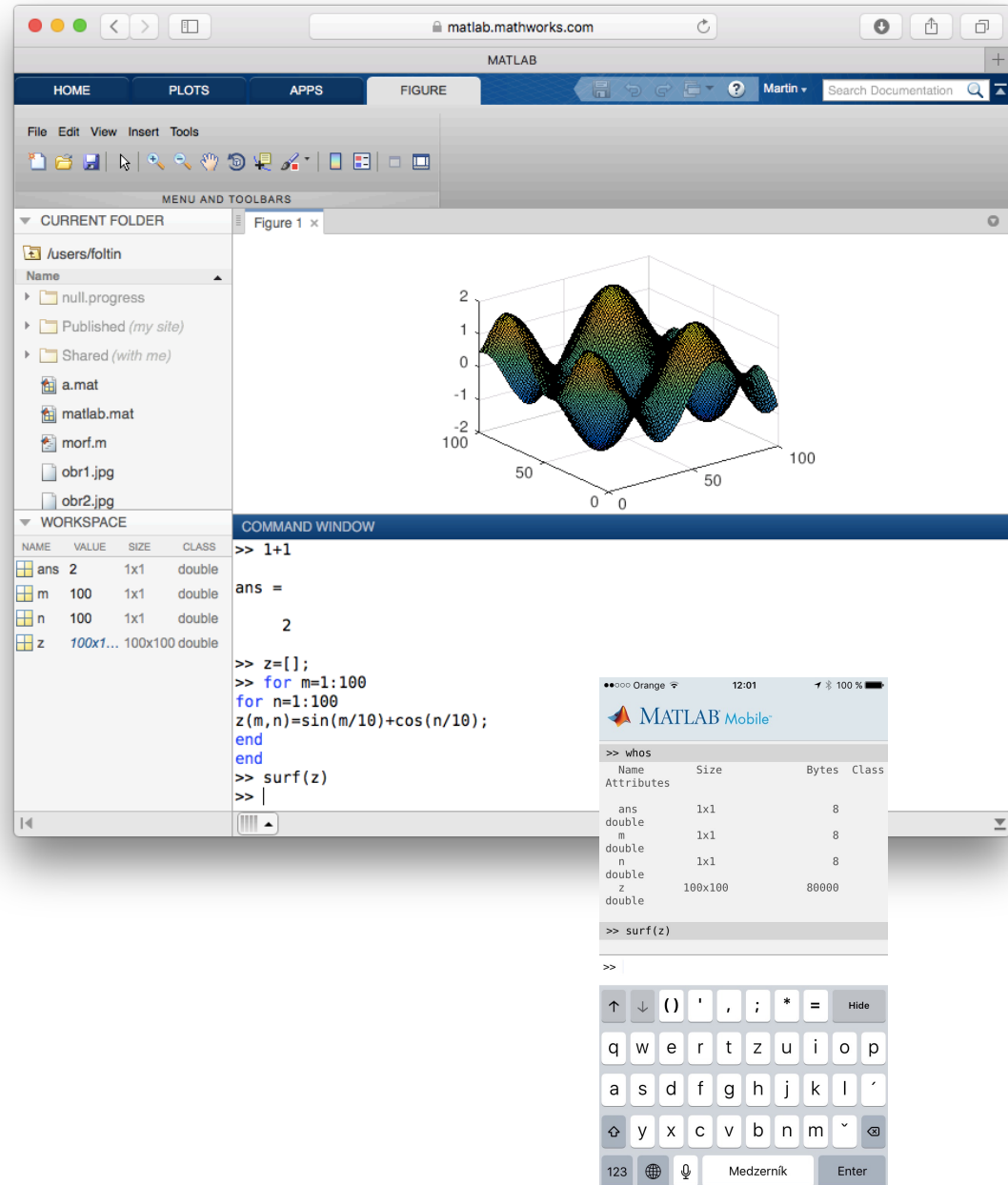
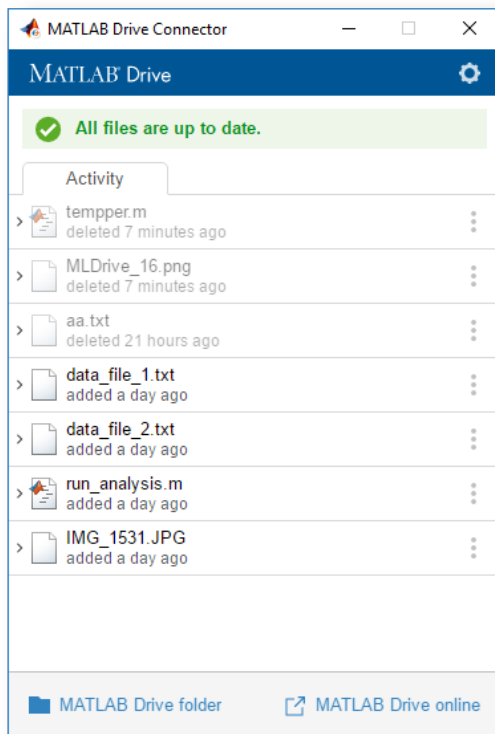
Čo prináša TAH

- Študenti
 - Úplný prístup k MATLABu a všetkým Toolboxom na univerzite
 - Možnosť inštalácie na vlastné počítače
 - Možnosť inštalovať na počítače v spoločných priestoroch (internáty, knižnica, klubovne, ...)
 - Overenie algoritmov na low cost hw (Arduino, LEGO, Raspberry Pi, ...)
 - Odpadá pokušenie používania nelegálneho softvéru
 - Vznik komunity študentov (kluby, makerzone, ...)
 - Zapájanie sa do súťaží (aj medzinárodných)
 - Kooperácia so študentami z iných univerzít

**Jednotný
dorozumievací
jazyk**

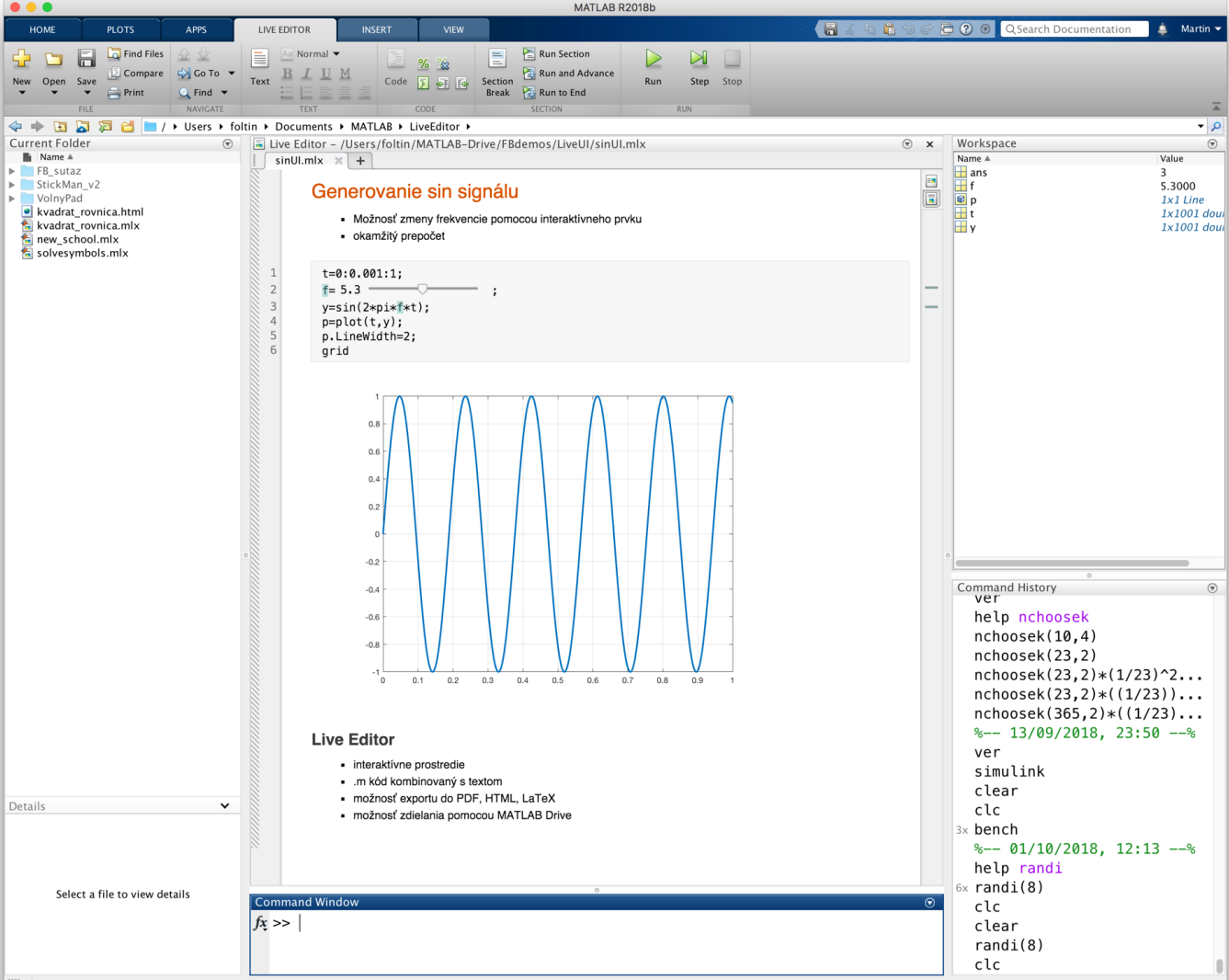
Čo prináša TAH

- Prístup k online službám
 - MATLAB Online
 - MATLAB Mobile
 - MATLAB Drive (5GB)



MATLAB Live Editor

- Interaktívny editor
- Funguje aj v MATLAB Online
- Export
 - PDF
 - HTML
 - LaTeX
- Zdielanie
 - MATLAB Drive



The screenshot displays the MATLAB Live Editor interface. The main window shows a code editor with the following code:

```

1 t=0:0.001:1;
2 f= 5.3 ;
3 y=sin(2*pi*f*t);
4 p=plot(t,y);
5 p.LineWidth=2;
6 grid
  
```

Below the code is a plot of a sine wave with a frequency of 5.3 Hz. The plot shows the signal over time from 0 to 1 second. The y-axis ranges from -1 to 1. The plot is titled "Generovanie sin signálu".

Below the plot, there is a section titled "Live Editor" with the following features:

- interaktívne prostredie
- .m kód kombinovaný s textom
- možnosť exportu do PDF, HTML, LaTeX
- možnosť zdieľania pomocou MATLAB Drive

The interface also includes a "Workspace" panel on the right showing variables: ans (3), f (5.3000), p (1x1 Line), t (1x1001 dou), and y (1x1001 dou). The "Command History" panel shows the following commands:

```

ver
help nchoosek
nchoosek(10,4)
nchoosek(23,2)
nchoosek(23,2)*(1/23)^2...
nchoosek(23,2)*((1/23))...
nchoosek(365,2)*((1/23))...
%-- 13/09/2018, 23:50 --%
ver
simulink
clear
clc
3x bench
%-- 01/10/2018, 12:13 --%
help randi
6x randi(8)
clc
clear
randi(8)
clc
  
```

The "Command Window" at the bottom shows the prompt `f>> |`.

Ako inštalovať?

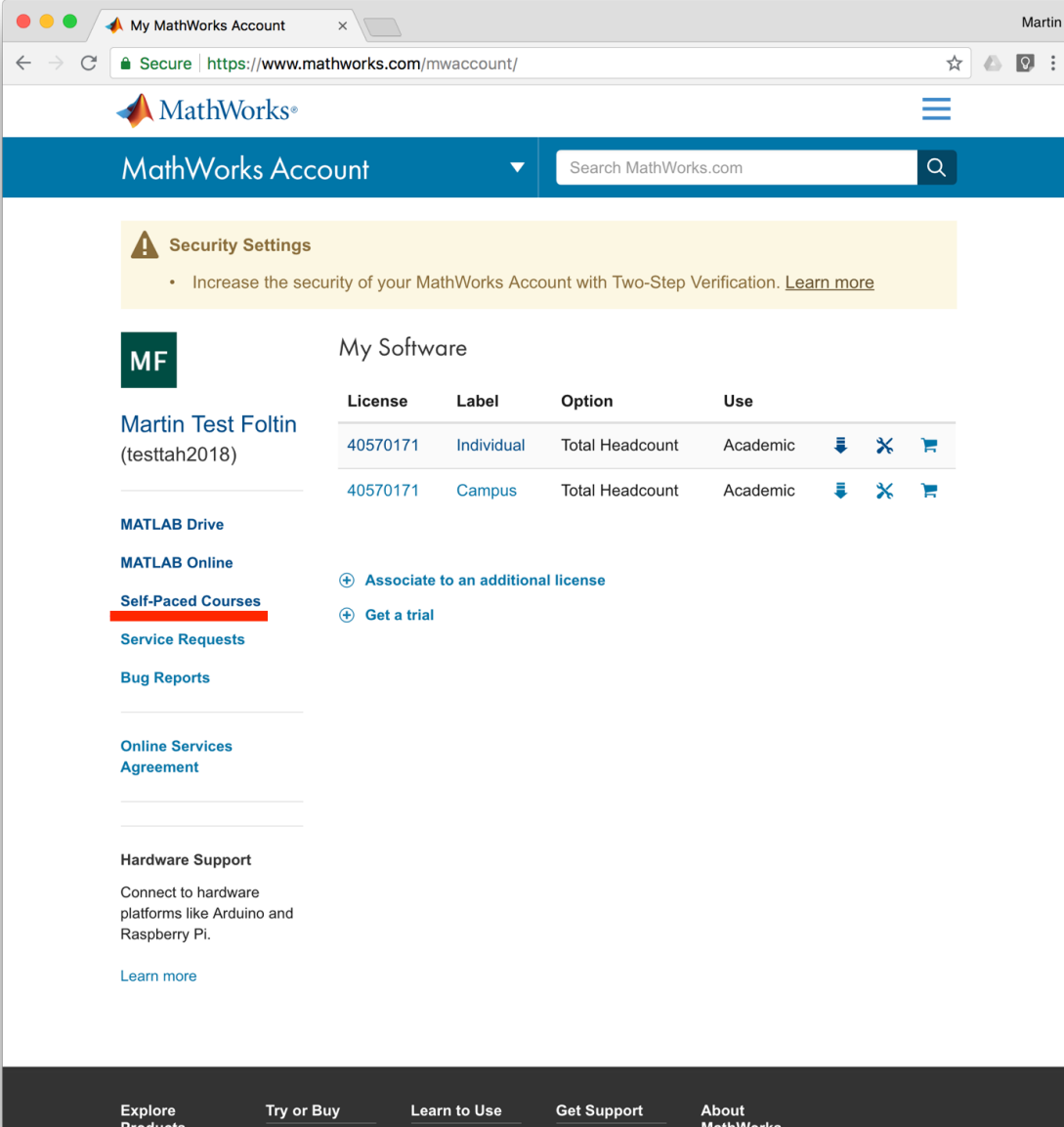
- www.tuke.sk/matlab
- Vytvoriť si konto na www.mathworks.com
- Použite e-mail @tuke.sk / @student.tuke.sk

- Stiahnuť
- Inštalovať
- Aktivovať
- Používať

- Nezabudnite na MATLAB Online
- Možnosť zdieľať zadania cez MATLAB Drive

Online kurzy

- Self-Paced Courses
- Začnite s MATLAB Onramp
 - Za 2h máte 1. certifikát



The screenshot shows the 'My MathWorks Account' page. The navigation menu on the left includes: MATLAB Drive, MATLAB Online, **Self-Paced Courses** (highlighted with a red underline), Service Requests, Bug Reports, Online Services Agreement, and Hardware Support. The 'My Software' table lists two licenses for 'Martin Test Foltin'.

License	Label	Option	Use
40570171	Individual	Total Headcount	Academic
40570171	Campus	Total Headcount	Academic

Online kurzy

- MATLAB Onramp
- MATLAB Deep Learning Onramp

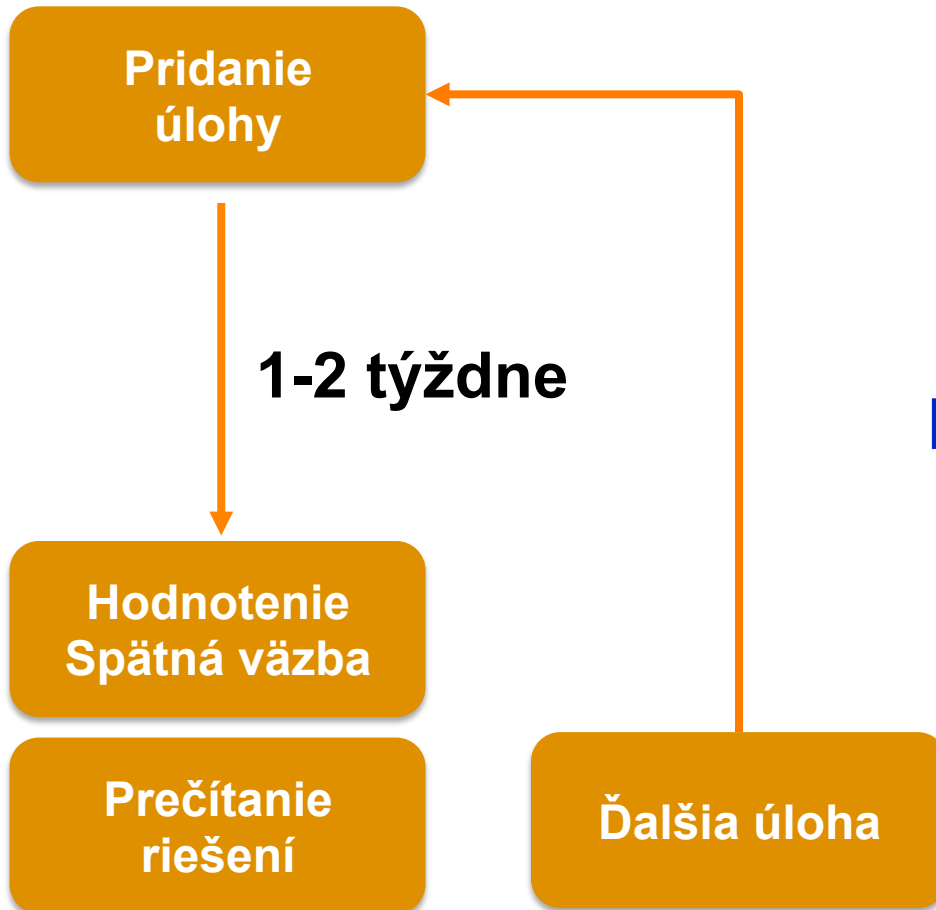
- Solving Ordinary Differential Equations with MATLAB
- Introduction to Statistical Methods with MATLAB
- Introduction to Linear Algebra with MATLAB
- Solving Nonlinear Equations with MATLAB

- MATLAB Fundamentals
- MATLAB for Data Processing and Visualization
- MATLAB Programming Techniques
- MATLAB for Financial Applications
- Machine Learning with MATLAB
- Deep Learning with MATLAB

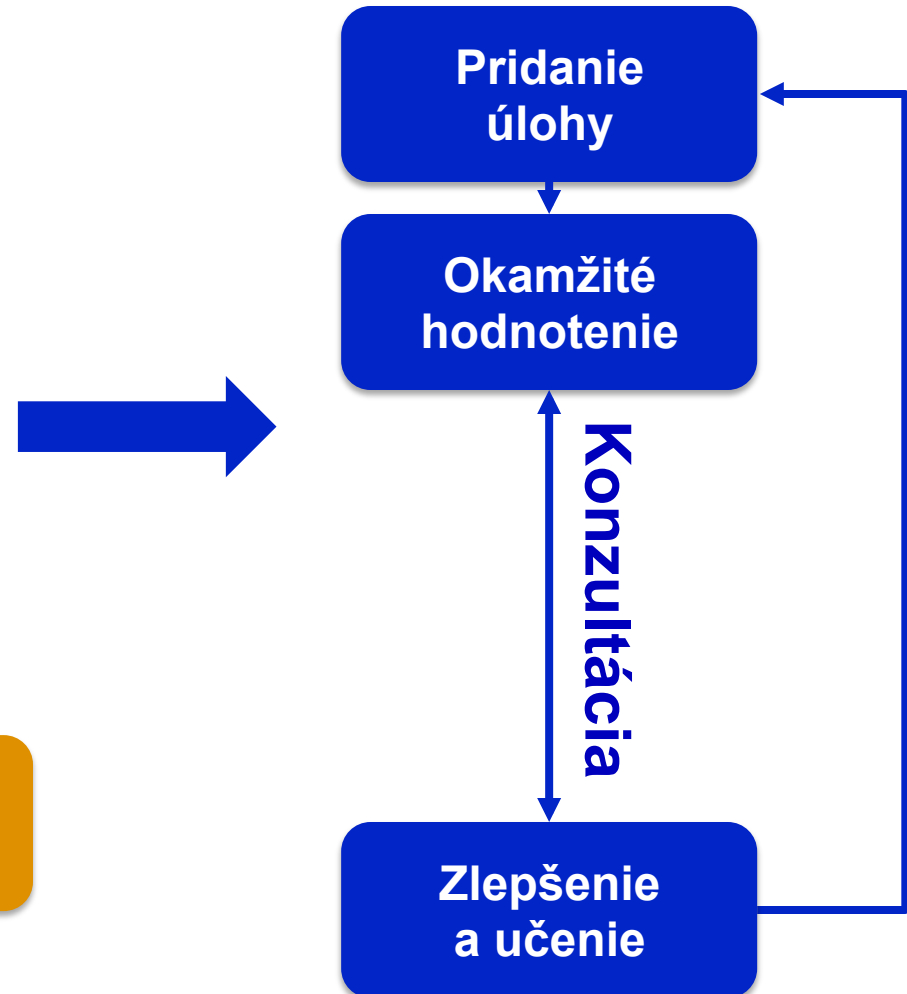


MATLAB Grader – zrýchlenie hodnotenia

Tradičné hodnotenie



Automatické hodnotenie



Prechod od tradičných zadaní

Assignment_v2.pdf - Adobe Acrobat Reader DC

Home Tools Assignment_v2.pdf x Sign In

1 / 3 44.6%

INTRODUCTION TO PROGRAMMING WITH MATLAB

Assignment 1: Convergent Series

Background

In mathematics, a series is the sum of the terms of an infinite sequence of numbers. A series is convergent if the sequence of its partial sums tends to a limit; that means that the partial sums become closer and closer to a given number when the number of their terms increases.

For more details, please refer to the [Wikipedia entry on Convergent Series](#).

Problem 1b: Estimating the value of Pi using Leibniz Series - Due 9/1

One of the methods to estimate the value of π is to use the Leibniz series expansion to a reasonably large number of terms and use the expression below to estimate the value of π .

$$\frac{\pi}{4} \approx 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \dots + \frac{(-1)^{n+1}}{2n-1} = \sum_{k=1}^n \frac{(-1)^{k+1}}{2k-1}$$

LaTeX: $\backslash\pi/4 \approx 1 - 1/3 + 1/5 - \dots = \sum_{k=1}^n (-1)^{k+1} \frac{1}{2k-1}$

Using this expression, write a script to estimate the value of π using N terms. Your code should include the following variables:

N % Number of terms used in the series expansion
 estPi % Value of π estimated using 'N' terms in the series.

Determine a value of N that ensures that the estimated value of π is within 0.1% of the actual value. Start with 10 terms, and increase or decrease the number appropriately to adjust the estimate.

You can use the Learner Template code provided below to develop your solution.

Learner Template

```
nTerms = ; % Number of terms to be used in the series expansion
% <Enter your code here>

estPi = ; % Estimated value of Pi for 'N' values.
```

Check to ensure that:

- the code does NOT use the variable 'pi' available in MATLAB.
- the output is numerically accurate for the number of series terms used.

Test Suite 1: Is MATLAB's built-in variable 'pi' being invoked in your code?

Feedback: The variable 'pi' available in MATLAB is being used in your code. Please retain only your estimated value of π under the variable name 'estPi'.

Test Suite 2: Is the estimated value of 'pi' acceptably accurate?

Feedback: Your estimated value doesn't fall within 0.1% of the expected value of π .



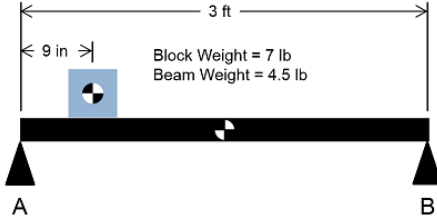
Courses

You are given a 3 foot long metal beam that weighs 4.5 lb. The beam has uniform density that is simply supported at each end. On the beam is a block that weighs 7 lb. The block's center of mass is 9 inches from end A.

How much weight is being carried by the supports at each end? The supports are labeled A and B.

Write code below to

1. Create a variable named FA that stores the force at point A.
2. Create a variable named FB that stores the force at point B.



Hint: [How to calculate the forces](#)

Your Script


Save Reset MATLAB Documentation

```
1 % DO NOT EDIT
2 % Givens:
3 weightBeam = 4.5;
4 lengthBeam = 3;
5 weightBlock = 7;
6 lengthAtoBlock = 9/12;
7
8 % ENTER YOUR SOLUTION HERE
9
```

MATLAB Grader

Automatické hodnotenie kódu MATLABu

- Tvorba a zdieľanie úloh založených na MATLABe
- Automatické hodnotenie riešení študentov
- Knižnica príkladov
- *Voliteľné:* Integrácia s LMS (learning management system)



The screenshot displays the MATLAB Grader web interface. At the top, there's a navigation bar with links for 'Courses & Content', 'LMS Integration', 'License Management', and 'Documentation & Support'. A personalized greeting 'Hello, Jeff Alderson' is shown. Below this, a 'Get Started' section offers a 'Guided Tour (3-minute video)' and 'Documentation'. The 'Courses' section lists several courses, including 'Introduction to Numerical Methods' and 'Copy of Introduction to Programming'. A sidebar on the left provides navigation options like 'MATLAB 101', 'Participants', 'Badges', 'Competencies', 'Grades', 'Dashboard', 'Site home', 'Calendar', 'Private files', 'My courses', 'LTI', and 'Site administration'. The main content area shows a problem titled 'Introduction to MATLAB Programming' with a sub-section 'Embedded' containing 'Problem 1a: Estimating the value of Pi using Leibniz Series'. The problem text explains the Leibniz series expansion and provides a mathematical formula: $\pi/4 \approx 1 - 1/3 + 1/5 - \dots = \sum_{k=1}^{\infty} \frac{(-1)^{k+1}}{2k-1}$. It asks the user to write a script to estimate Pi using 100 terms. A code editor shows the following MATLAB code:

```
nTerms = 100; % Number of terms to be used in the series expansion
% <Enter your code here>
estPi = ; % Estimated value of Pi for 'N' values.
```

 A 'Run Script' button is visible at the bottom right.

LMS Integrácia

MATLAB® Grader™
Jeff Alderson ▾

[Courses & Content](#) | [LMS Integration](#) | [License Management](#) | [Documentation & Support](#) ▾

Learning Management System Integration

Integrate MATLAB Grader into your Learning Management System (LMS) so you can add MATLAB problems to your LMS course.

Select your LMS platform

BlackBoard ▾

Check Whether MATLAB Grader is Already Integrated

If it is, you can start adding MATLAB problems to your LMS course. No additional steps are required.
[How to Check?](#)

Primary Contact for your Institution

Your institution's primary contact may be able to help you with the integration.

Jeff Alderson
 jeff.alderson@mathworks.com
 5086476852

Integrating MATLAB Grader

If MATLAB Grader is not yet integrated into your LMS, follow your LMS's procedure for integrating external content. You'll be asked to provide credentials ("key" and "secret") and a "launch URL". Generate the key and secret, then refer to the instructions below.

Information You'll Provide to the LMS

Key	Generate Key and Secret
Secret	
Launch URL	https://lms-grader.mathworks.com/launch

Instructions
[View Instructions](#)



+
My Institution | **Courses** | Community | Content Collection | Services | System Admin

Exoplanets ... Homework Assignments Problem 1: Rocky Planets

Add Problem

Start with a blank problem, an example problem, or a problem from a course or collection.

Blank Problem and Example Problems

Blank Problem

Create a script or function problem from scratch.

Example Problems

Created By: MathWorks
13 problems

LMS Courses

Exoplanets

8 problems

MATLAB Grader Courses and Collections

[Access your MATLAB Grader \(formerly Cody Coursework\) problems](#) by linking to your MathWorks account.

Rozdelenie hodnotenia (súčasť LMS)

Your Script Save Reset MATLAB Documentation

```

1 % Load the data. Every day from 1900 - 2017.
2 BostonTemps = readtable('BostonDailyHighLowTemps.xlsx');
3
4 % Group by day of year. Then find the average low temperature
5 % for each day of the year and the standard deviation of the
6 % temperature for that day.
7 gDays = findgroups(day(BostonTemps.Date, 'dayofyear'));
8 avgTmin = splitapply(@mean, BostonTemps.Tmin, gDays);
9 stdTmin = splitapply(@std, BostonTemps.Tmin, gDays);
10
11 % Find the number of days in each year where Tmin < avgTmin - stdTmin
12
13

```

▶ Run Script

Assessment: 80% Submit ?

✔ Is cross-sectional area correct?	10% (10%)
✔ Is the Modulus of Elasticity correct?	30% (30%)
✔ Is yield strength calculated correctly?	30% (30%)
✔ Is ultimate strength correct?	10% (10%)
✘ Is fracture strength correct? Variable fracture has an incorrect value.	0% (20%)

Verify that:

- strain data starts at 0 mm/mm, and stress starts at 0 Pa. Correct the raw data if necessary.
- fracture is assigned a stress value with units of Pa

Total: 80% (100%)

Analytika

Assessment: Incorrect

Submit ?

✓ Is cross-sectional area correct?

✓ Is the Modulus of Elasticity correct?

✓ Is yield strength calculated correctly?

✓ Is ultimate strength correct?

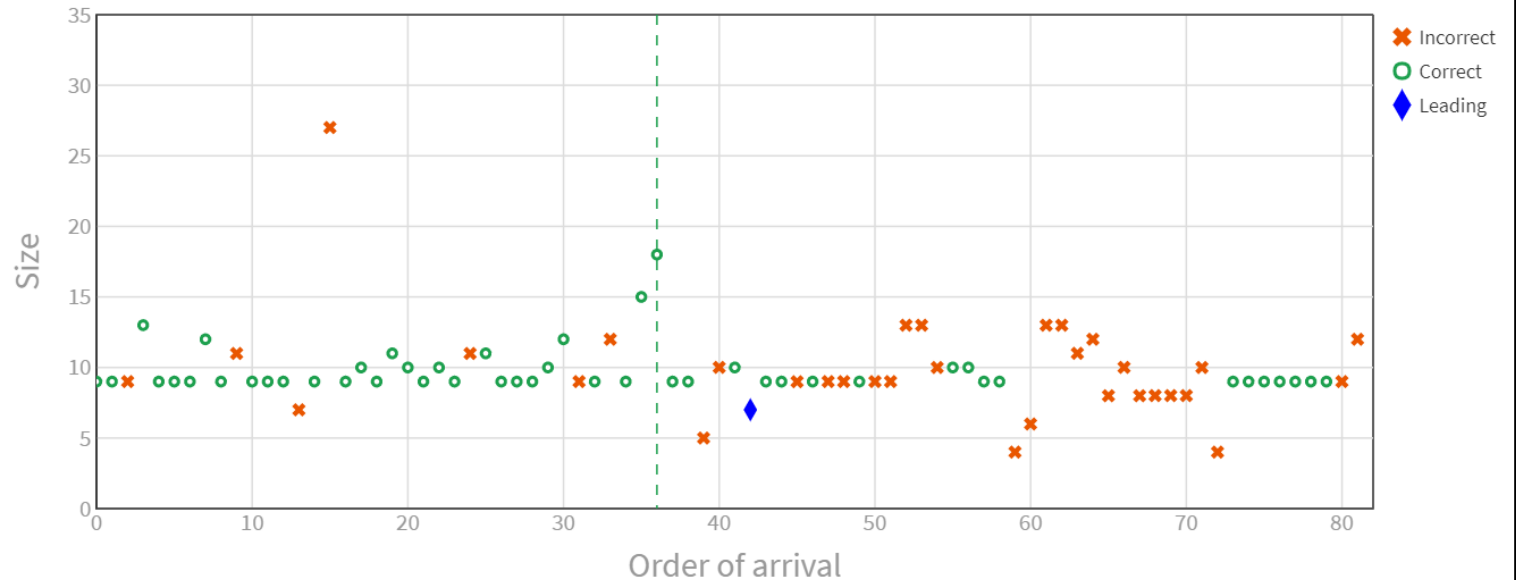
✗ Is fracture strength correct?

Variable fracture has an incorrect value

Verify that:

- strain data starts at 0 mm/m
- **fracture** is assigned a stress

View: All Solutions Test Solutions Submitted Solutions



MATLAB Grader možnosti

- **Zadarmo**





















- URL adresa MathWorks
- Vyžaduje konto na MathWorks, Licenciu
- Cena: zadarmo
- Čas: neobmedzene

- **Platené**

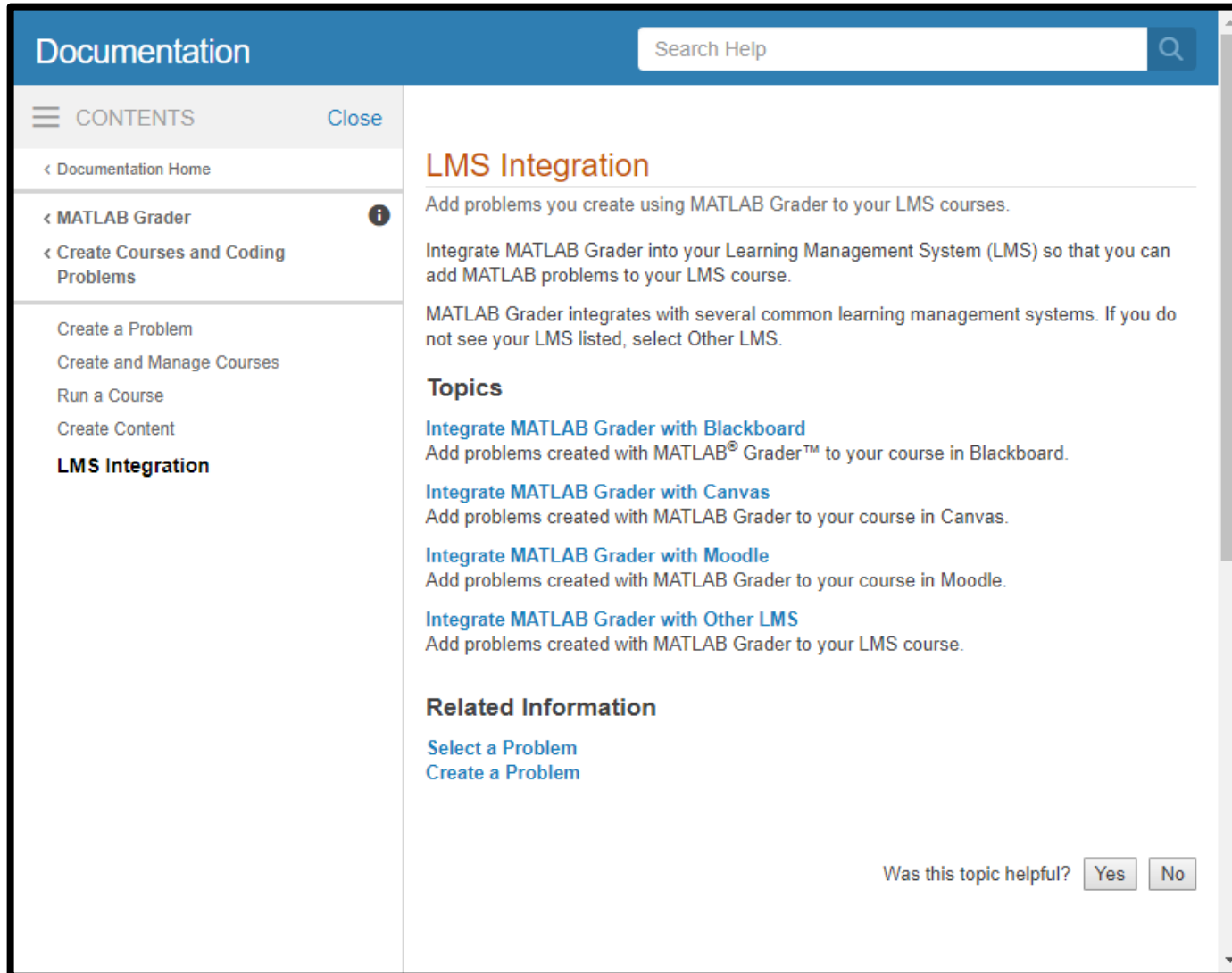
- URL na základe LMS
- Vyžaduje TAH
- Cena (individuálne pre TUKE): ~ 2500€ bez DPH
- Čas: ročne, spolu s TAH Licenciou

MATLAB Grader možnosti

 Dostupné
  Limitované
  Nedostupné

	Zadarmo	Platené		Zadarmo	Platené
Príklady problémov			Paralelné kurzy		
Automatické hodnotenie			Analytika		
Pozývanie študentov					
Pozývanie učiteľov			Katalóg problémov		
Tvorba úloh			LMS Integrácia		
Import Export					

Dokumentáció



The screenshot shows a web interface for documentation. At the top, there is a blue header with the word "Documentation" on the left and a search bar labeled "Search Help" on the right. Below the header is a sidebar with a "CONTENTS" section and a "Close" button. The sidebar lists navigation options: "Documentation Home", "MATLAB Grader" (with an information icon), "Create Courses and Coding Problems", "Create a Problem", "Create and Manage Courses", "Run a Course", "Create Content", and "LMS Integration" (which is highlighted). The main content area is titled "LMS Integration" and contains the following text: "Add problems you create using MATLAB Grader to your LMS courses." followed by "Integrate MATLAB Grader into your Learning Management System (LMS) so that you can add MATLAB problems to your LMS course." and "MATLAB Grader integrates with several common learning management systems. If you do not see your LMS listed, select Other LMS." Below this is a "Topics" section with four links: "Integrate MATLAB Grader with Blackboard", "Integrate MATLAB Grader with Canvas", "Integrate MATLAB Grader with Moodle", and "Integrate MATLAB Grader with Other LMS". At the bottom of the main content area is a "Related Information" section with two links: "Select a Problem" and "Create a Problem". In the bottom right corner of the page, there is a feedback form that says "Was this topic helpful?" with "Yes" and "No" buttons.

Documentation

☰ CONTENTS Close

- < Documentation Home
- < MATLAB Grader i
- < Create Courses and Coding Problems
- Create a Problem
- Create and Manage Courses
- Run a Course
- Create Content
- LMS Integration**

LMS Integration

Add problems you create using MATLAB Grader to your LMS courses.

Integrate MATLAB Grader into your Learning Management System (LMS) so that you can add MATLAB problems to your LMS course.

MATLAB Grader integrates with several common learning management systems. If you do not see your LMS listed, select Other LMS.

Topics

- [Integrate MATLAB Grader with Blackboard](#)
Add problems created with MATLAB® Grader™ to your course in Blackboard.
- [Integrate MATLAB Grader with Canvas](#)
Add problems created with MATLAB Grader to your course in Canvas.
- [Integrate MATLAB Grader with Moodle](#)
Add problems created with MATLAB Grader to your course in Moodle.
- [Integrate MATLAB Grader with Other LMS](#)
Add problems created with MATLAB Grader to your LMS course.

Related Information

- [Select a Problem](#)
- [Create a Problem](#)

Was this topic helpful?

Kam za informáciami

- Web
 - www.humusoft.sk
 - www.mathworks.com
 - www.mathworks.com/matlabcentral/answers/
- Facebook
 - <https://www.facebook.com/groups/matlab4students/>
 - 2287 členov
- Webinare
 - Live
 - Archív
 - SK&CZ / ENG

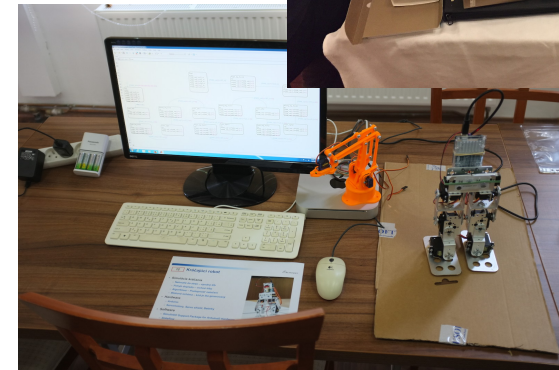
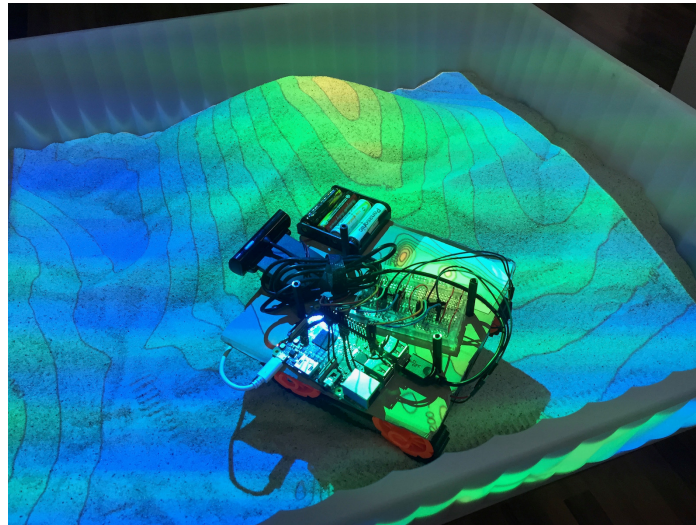


Kam za informáciami

- Technical Computing Camp
 - Brno
 - Neformálne stretnutie

- Technical Computing Prague
 - Medzinárodná konferencia

- Semináre
- Školenia



Komunita

- Univerzity s TAH
 - [STU, UNIZA, TUKE] ~30 000 študentov technického zamerania
 - Liberec, Jihlava
 - zahraničie
- Spoločná príprava študijných materiálov
- Zdieľanie
- Výmena študentov

- **Zapojíte sa?**
- **Využívajte kurzy MAOTS**
- **Podel'te sa s nami o skúsenosti**

