



SVEUČILIŠTE U ZAGREBU
FAKULTET PROMETNIH ZNANOSTI
ZAVOD ZA INTELIGENTNE TRANSPORTNE SUSTAVE

Instalacija potrebnih alata

OR-Tools

Leo Tišljarić, mag. ing. traff.
ltisljaric@fpz.unizg.hr

Zagreb, 29. listopada 2020.

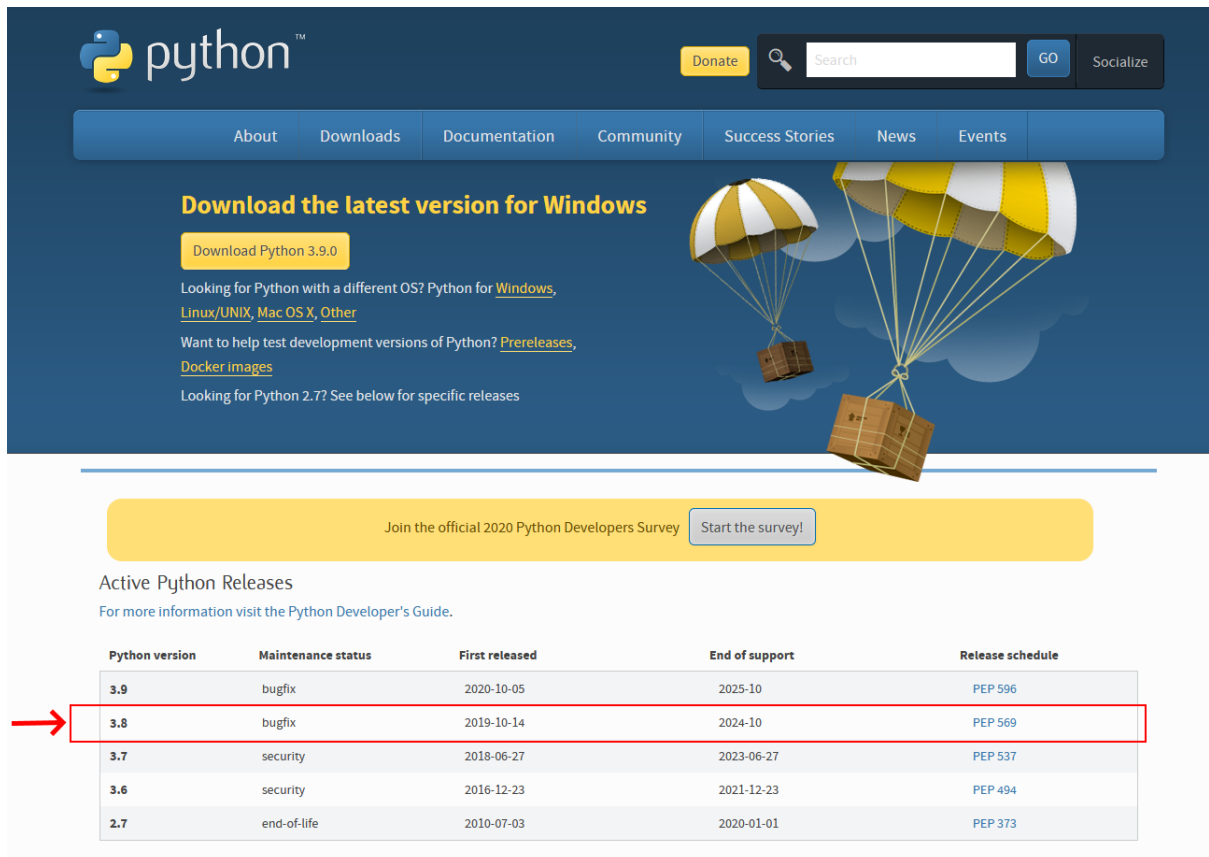
Sadržaj

1	Instalacija potrebnih alata	3
1.1	Python	3
1.2	OR-Tools.....	4
1.3	IDE	5
2	Pokretanje pokaznog primjera.....	6

1 Instalacija potrebnih alata

1.1 Python

<https://www.python.org/downloads/>



Download the latest version for Windows

Download Python 3.9.0

Looking for Python with a different OS? Python for [Windows](#), [Linux/UNIX](#), [Mac OS X](#), [Other](#)

Want to help test development versions of Python? [Prereleases](#), [Docker images](#)


Looking for Python 2.7? See below for specific releases

Join the official 2020 Python Developers Survey [Start the survey!](#)

Active Python Releases

For more information visit the [Python Developer's Guide](#).

Python version	Maintenance status	First released	End of support	Release schedule
3.9	bugfix	2020-10-05	2025-10	PEP 596
3.8	bugfix	2019-10-14	2024-10	PEP 569
3.7	security	2018-06-27	2023-06-27	PEP 537
3.6	security	2016-12-23	2021-12-23	PEP 494
2.7	end-of-life	2010-07-03	2020-01-01	PEP 373



Python 3.7.4 (64-bit) Setup

Install Python 3.7.4 (64-bit)

Select **Install Now** to install Python with default settings, or choose **Customize** to enable or disable features.

Install Now
C:\Users\Win10 Home x64\AppData\Local\Programs\Python\Python37

Includes IDLE, pip and documentation
Creates shortcuts and file associations

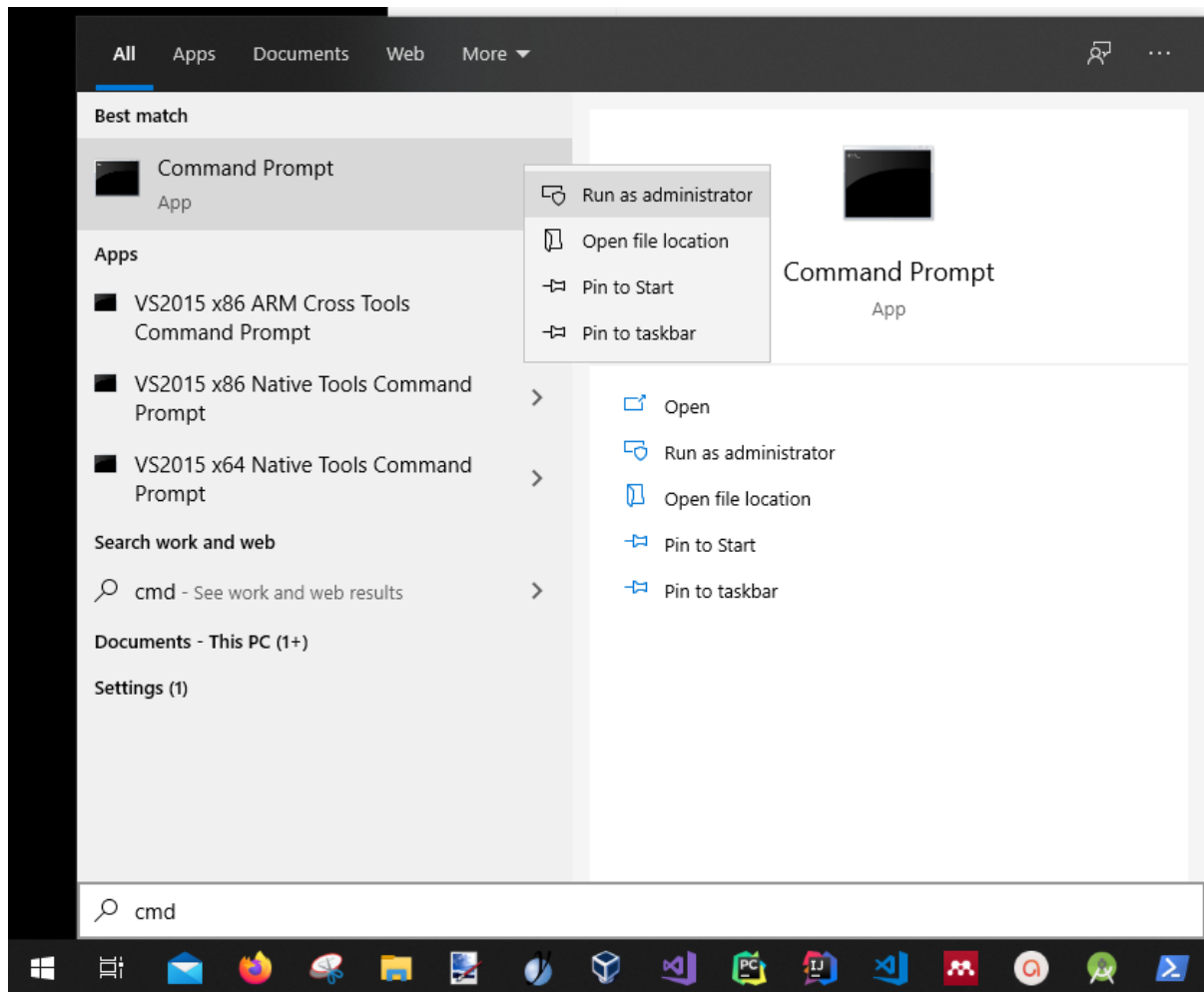
→ **Customize installation**
Choose location and features

☒ Install launcher for all users (recommended)

☒ Add Python 3.7 to PATH

Cancel

1.2 OR-Tools



```
python -m pip install ortools
```

1.3 IDE

Integrirano razvojno okruženje (engl. Integrated Development Environment (IDE)) je softver koji omogućava uređivanje, ispravljanje grešaka, testiranje i pokretanje programskog koda. Neki od poznatih primjera IDE su Visual Studio, PyCharm, Eclipse i slični. IDE je većinom prilagođen za jedan programski jezik, no može se koristiti i iza više programskih jezika.

Vježbe će se izvoditi koristeći PyCharm (Community Edition), no student može odabrati i drugi IDE koji im najviše odgovara i podesiti postavke kako bi mogli pratiti vježbe, npr.:

- [Visual Studio Code](#)
- [Jupyter](#)
- ...

Upute za instalaciju PyCharm IDE se nalaze ovdje:

<https://www.jetbrains.com/pycharm/download/#section=windows>

2 Pokretanje pokaznog primjera

<https://developers.google.com/optimization/routing/vrp>

The screenshot shows the Google OR-Tools website. The left sidebar contains a navigation menu with categories like 'Get Started', 'Linear Optimization', 'Integer Optimization', 'Constraint Optimization', 'Assignment', 'Routing', 'Bin Packing', 'Network Flows', and 'Scheduling'. The 'Routing' section is expanded, showing sub-items like 'Overview', 'Traveling Salesman Problem', 'Vehicle Routing Problem', 'Capacity Constraints', 'Pickups and Deliveries', 'Time Window Constraints', 'Dimensions', 'Resource Constraints', 'Penalties and Dropping Visits', 'Common Routing Tasks', 'Routing Options', and 'Google Distance Matrix API'. The main content area features a diagram of a grid with nodes 11, 12, 13, 14, and 15, connected by green and orange lines representing routes. Below the diagram, the text 'Complete programs' is followed by a link to 'The complete programs that minimizes the longest single route are shown below.' A code editor displays Python code for solving the VRP. A context menu is open over the code, showing options like 'Copy', 'Paste', 'Search Google for...', 'Viper Selection Source', 'Inspect Element', 'Take a Screenshot', and 'To Google Translate'. The right sidebar contains a 'Table of contents' for the VRP example, listing steps from 'Overview' to 'Entire program'.

The screenshot shows the PyCharm IDE interface. The title bar indicates the project is 'VRPexample' located at 'C:\Users\ltsljarij\Desktop\VRPexample'. The main window displays the 'main.py' file. A context menu is open over the code, showing various actions such as 'Copy Reference', 'Paste', 'Paste from History...', 'Paste without Formatting', 'Column Selection Mode', 'Find Usages', 'Refactor', 'Folding', 'Go To', 'Generate...', 'Run \'main\'', 'Debug \'main\'', 'Run \'main\' with Coverage', 'Profile \'main\'', 'Concurrency Diagram for \'main\'', 'Create \'main\'...', 'Show in Explorer', 'Open in Terminal', 'Local History', 'Run File in Console', 'Compare with Clipboard', 'File Encoding', and 'Diagrams'. The bottom status bar shows 'Python Console', 'Terminal', 'TODO', and 'Event Log'.

