



IPAQ PETA

V. GIMNAZIJA ZAGREB

GIMNAZIJA VUKOVAR

SREDNJA ŠKOLA LOVRE MONTIJA KNIN

SREDNJA ŠKOLA PAKRAC

GIMNAZIJA METKOVIĆ

PMF ZAGREB

Uvod u Python (motivacija i instalacija)

Ova publikacija je izrađena uz pomoć Europske unije. Sadržaj publikacije je u isključivoj nadležnosti V. gimnazije te se ni na koji način ne može smatrati da odražava stajališta Europske unije.

Europsku uniju čini 28 država članica koje su odlučile postupno povezivati svoja znanja, resurse i sudbine. Tijekom 50-godišnjeg razdoblja proširivanja, zajedno su izgradile područje stabilnosti, demokracije i održivog razvoja, zadržavajući pritom kulturnu raznolikost, toleranciju i slobode pojedinaca. Europska unija je posvećena dijeljenju svojih postignuća i vrijednosti s državama i narodima izvan svojih granica.

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Programski jezici prema metodologiji programiranja

PROCEDURALNI

- program čini slijed naredbi i procedura
- svaka procedura predstavlja jedan korak u rešavanju problema
- varijabla ima vrijednost koja se nalazi u spremniku

OBJEKTNI (Python)

- podaci i procedure čine objekt koji egzistira kao samostalna jedinica
- rješenje traži osmisliti jedinicu (objekt)
- varijabla pokazuje na vrijednosti koja se nalazi u spremniku

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Python

- je objektno usmjereni skriptni jezik
- osim objektnog dopušta i proceduralnu metodologiju programiranja

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Python je jednostavan

- Programski jezik visoke razine: jednostavan, razumljiv , može se programirati “Brzinom misli...”
- Visoko produktivan jezik
 - Program u Python-u je pet puta kraći nego isti program u Javi
 - Program u Python-u je deset puta kraći nego isti program u C++

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Programi u Python-u su jednostavni

● Python Program

```
print ("Programiranje u Pythonu")
```

● C++ Program

```
#include <iostream>

int main()
{
    std::cout << "Programiranje u Pythonu"
    << std::endl;
    return 0;
}
```

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Python u primjeni

- Koriste ga velike tvrtke:
 - NASA
 - Google
 - Microsoft
- Koristi se u izradi igara
 - Battlefield 2
 - Civilization IV
 - Disney's Toontown Online
- U izradi web aplikacija, aplikacija za mobitele
- Koristi se na akademskoj i znanstvenoj zajednici (školama i fakultetima)

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Python svugdje radi

- Neovisan o operativnom sustavu računala, te lako prenosiv
- Python radi na:
 - Windows
 - DOS
 - Mac OS X
 - Linux
 -
- lako ga je integrirati s drugim alatima i okolinama

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Python je Free and Open Source

Open source:

- Javno dostupan kôd (softver)
- Stvaraju ga volonteri
- Svatko može koristiti izvorni kod bez naknade
- Može ga se dopuniti i mijenjati

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Python ima zajednicu

- Python mailing lista
 - <http://mail.python.org/mailman/listinfo/tutor>
- Wiki Python
 - <https://wiki.python.org/moin/>
- Vodič za početnike:
<http://wiki.python.org/moin/BeginnersGuide/Programmers>

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Nedostatak Pythona

- Sporije izvođenje aplikacija (posebice u usporedbi s aplikacijama pisanim u jezicima poput C++)

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Program se može preuzeti s mrežne stranice
<http://www.python.org/download/>

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Python Software @ThePSF 16 Oct
A new conference: Python Namibia! goo.gl/fb/sPVzno
Expand

Donald Stufft @dstufft 12 Sep
Huge thanks to @Digicert for donating a free EV Cert to the PSF, as DNS updates you should see d.stufft.io/image/103C1o2H... on some domains!
Retweeted by Python Software
Expand

Donald Stufft @dstufft 12 Sep
Huge Thanks to @Fastly for donating dedicated IP addresses in all their DCs to the PSF. - (Will prevent bugs.python.org/issue22224)
Retweeted by Python Software
Expand

Tweet to @ThePSF

Download Python

Download Python

The current production versions are [Python 3.4.2](#) and [Python 2.7.8](#).

Start with one of these versions for learning Python or if you want the most stability; they're both considered stable production releases.

If you don't know which version to use, try Python 3.4. Some existing third-party software is not yet compatible with Python 3; if you need to use such software, you can download Python 2.7.x instead.

For the MD5 checksums and OpenPGP signatures, look at the [detailed Python 3.4.2 page](#):

- [Python 3.4.2 Windows x86 MSI Installer](#) (Windows binary -- does not include source)
- [Python 3.4.2 Windows X86-64 MSI Installer](#) (Windows AMD64 / Intel 64 / X86-64 binary [1] -- does not include source)
- [Python 3.4.2 Mac OS X 64-bit/32-bit x86-64/i386 Installer](#) (for Mac OS X 10.6 and later [2])
- [Python 3.4.2 Mac OS X 32-bit i386/PPC Installer](#) (for Mac OS X 10.5 and later [2])
- [Python 3.4.2 compressed source tarball](#) (for Linux, Unix or Mac OS X)
- [Python 3.4.2 xzipped source tarball](#) (for Linux, Unix or Mac OS X, better compression)

For the MD5 checksums and OpenPGP signatures, look at the [detailed Python 2.7.7 page](#):

- [Python 2.7.8 Windows Installer](#) (Windows binary -- does not include source)



Preuzimanje programa:

<http://www.python.org/download/>

For the MD5 checksums and OpenPGP signatures, look at the [detailed Python 3.4.2 page](#):

- [Python 3.4.2 Windows x86 MSI Installer](#) (Windows binary -- does not include source)
- [Python 3.4.2 Windows X86-64 MSI Installer](#) (Windows AMD64 / Intel 64 / X86-64 binary [1] -- does not include source)
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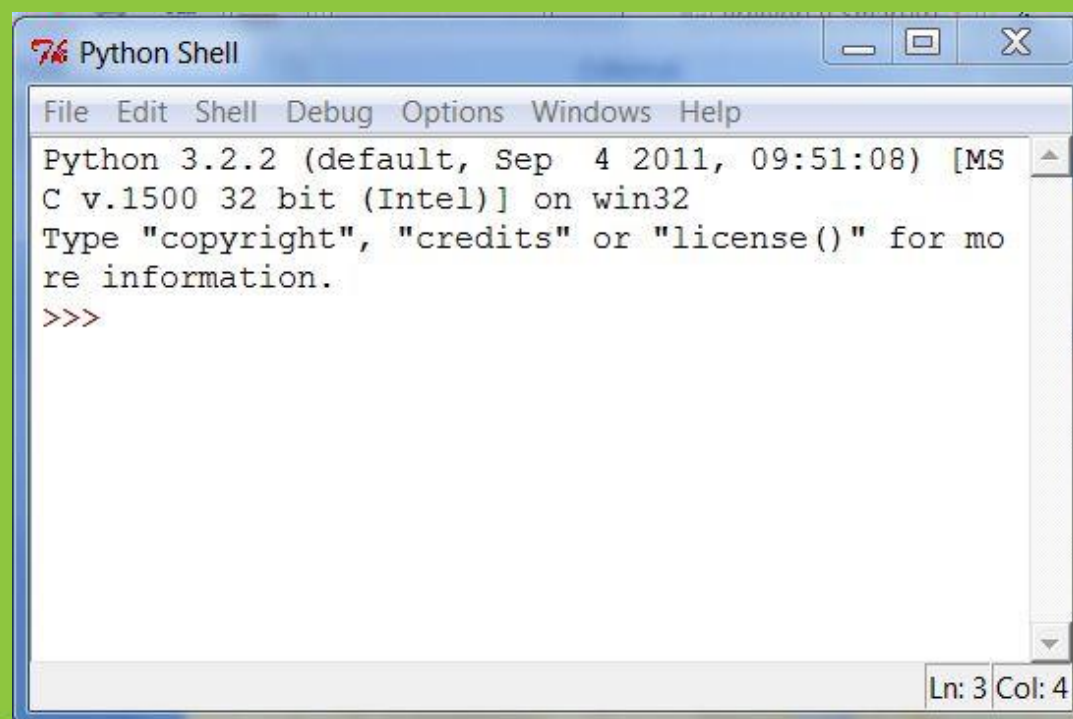
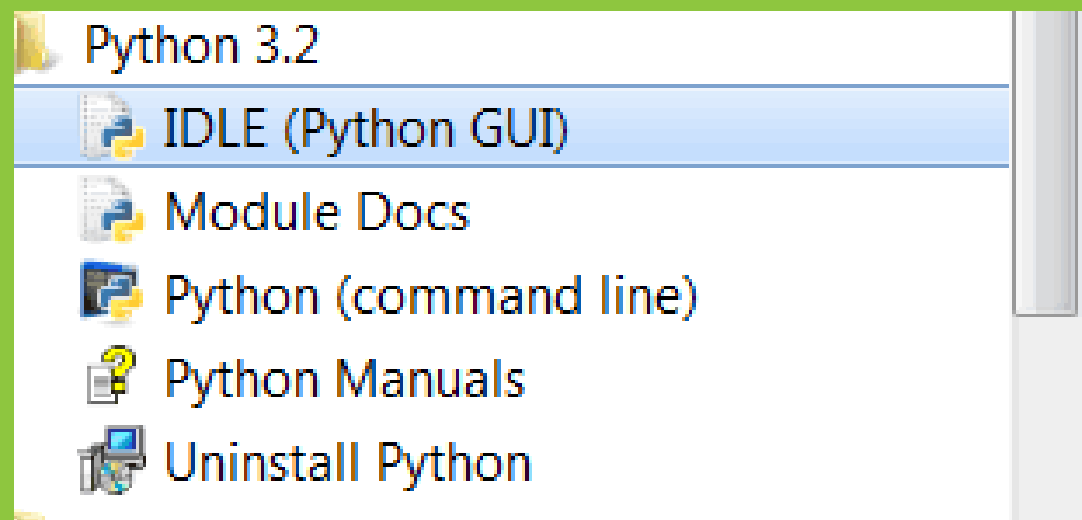


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Pokretanje Pythona

- IDLE (Integrated Development Environment) je editor i interaktivno sučelje za interpreter Python-a
- Otvara Python Shell okruženje u kojem se mogu izvoditi jednostavni programi bez stvaranja njihove izvršne verzije



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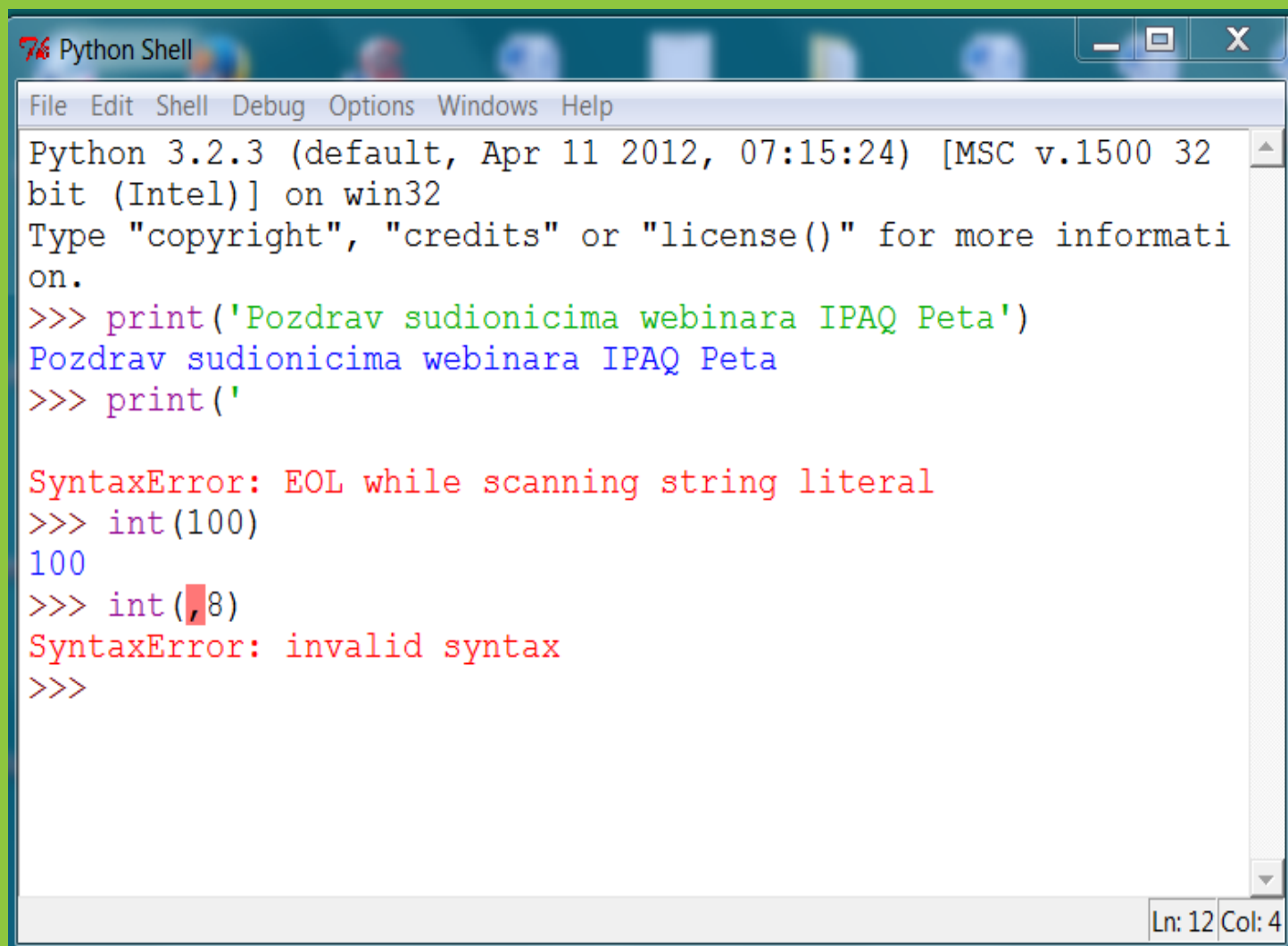


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Interaktivno okruženje (Python Shell)

- Učenje i isprobavanje naredbi -“ kako nešto radi”
- Odlična povratna informacija za testiranje ideje (algoritma)



```
Python Shell
File Edit Shell Debug Options Windows Help
Python 3.2.3 (default, Apr 11 2012, 07:15:24) [MSC v.1500 32
bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more informati
on.
>>> print('Pozdrav sudionicima webinara IPAQ Peta')
Pozdrav sudionicima webinara IPAQ Peta
>>> print('
SyntaxError: EOL while scanning string literal
>>> int(100)
100
>>> int(,8)
SyntaxError: invalid syntax
>>>
```

Ln: 12 Col: 4

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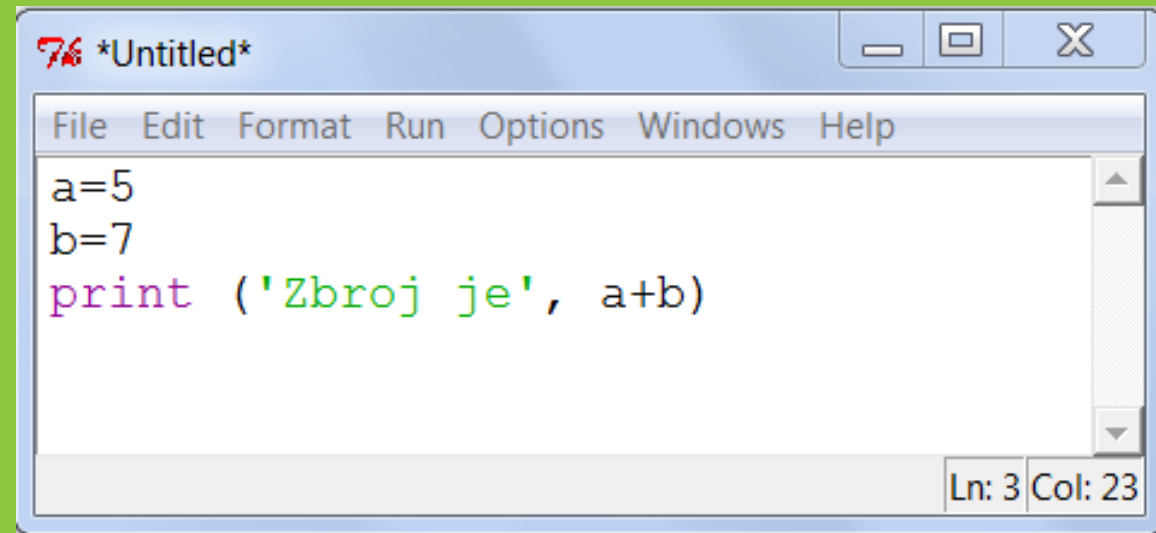


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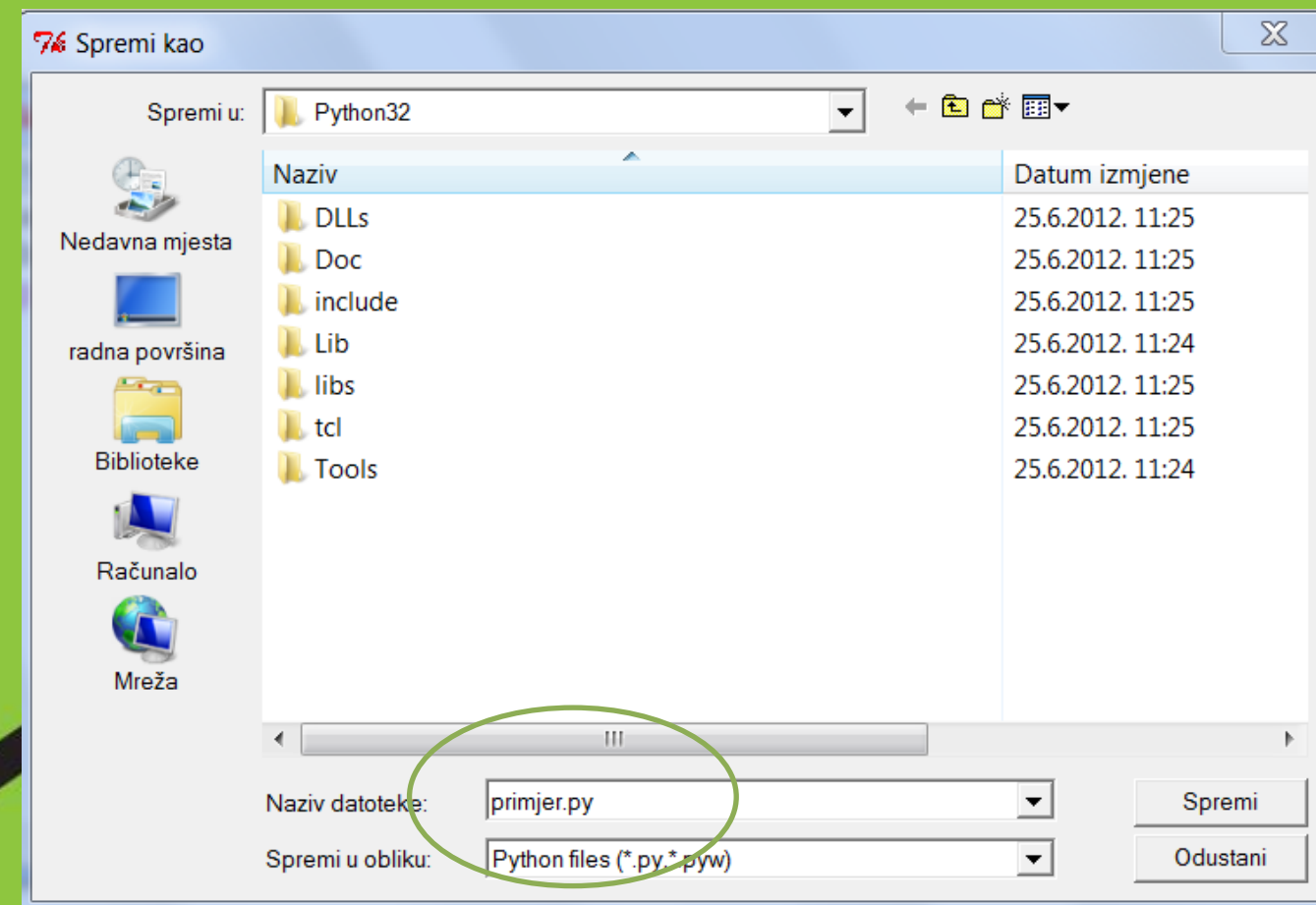
Neinteraktivno (uređivačko) okruženje

- Otvara se naredbom File/New Window.
- Napisani sadržaj (program) se sprema naredbom File/Save As

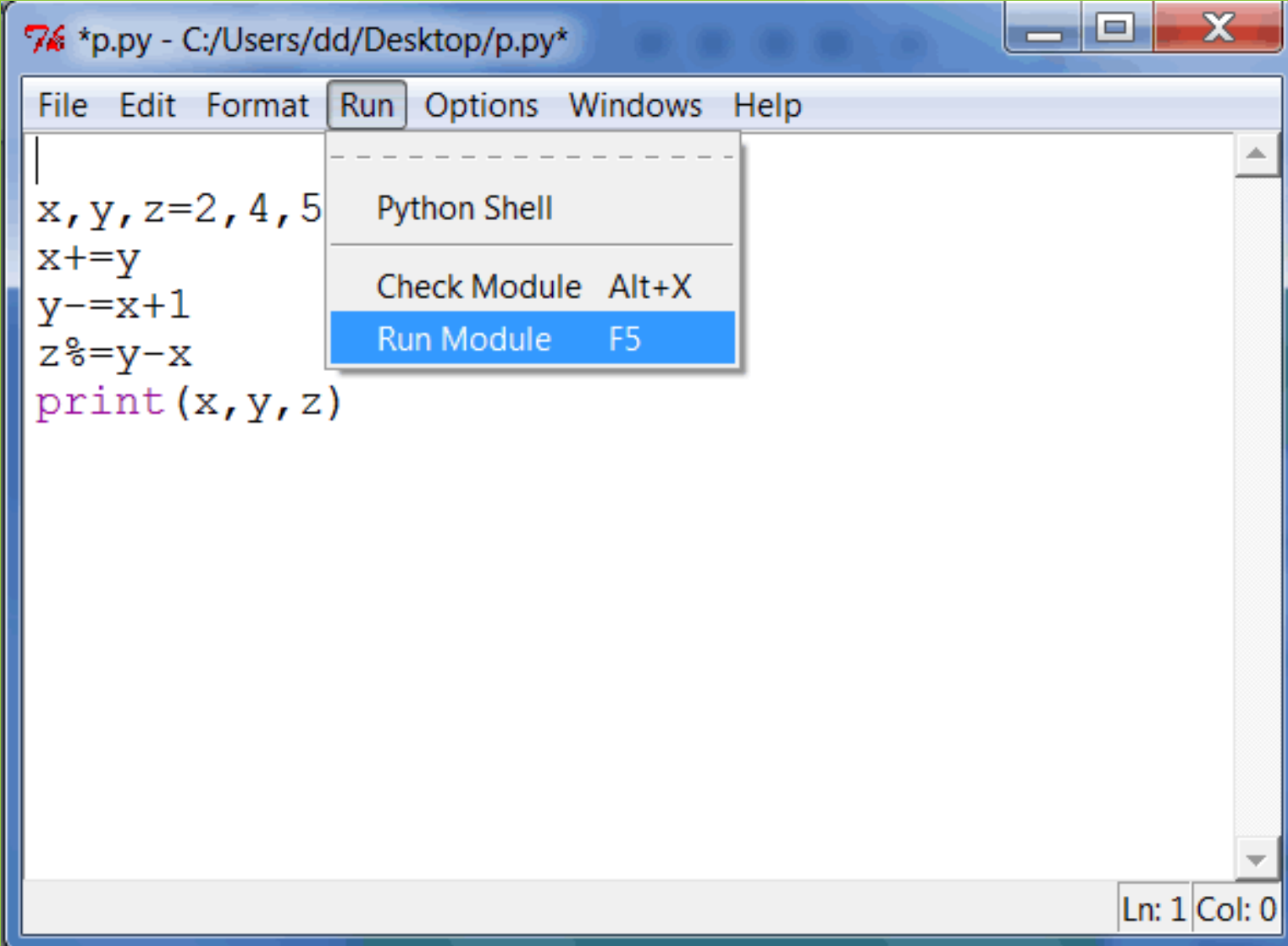


```
a=5
b=7
print ('Zbroj je', a+b)
```

Ln: 3 Col: 23



Izvođenje napisanog programa



The screenshot shows a window titled '*p.py - C:/Users/dd/Desktop/p.py*'. The menu bar includes File, Edit, Format, Run, Options, Windows, and Help. The 'Run' menu is open, showing options: Python Shell, Check Module (Alt+X), and Run Module (F5). The code in the editor is:

```
x, y, z=2, 4, 5  
x+=y  
y-=x+1  
z%=y-x  
print(x, y, z)
```

The status bar at the bottom right indicates 'Ln: 1 Col: 0'.

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