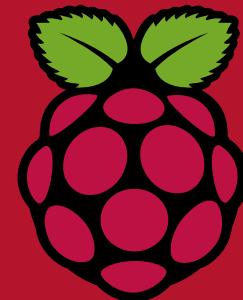


Univerza v Ljubljani  
Fakulteta za računalništvo  
in informatiko



# Raspberry Pi



19. november  
2016

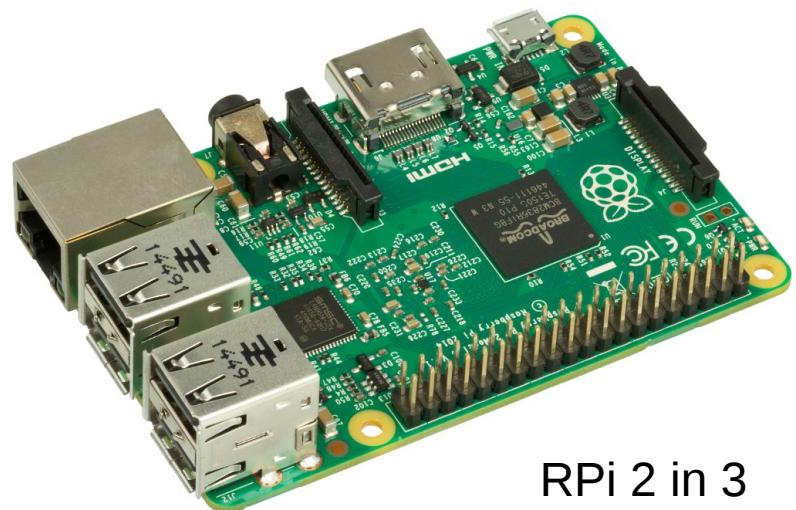
Matevž Jekovec



## Kaj je Raspberry PI?

- Žepni računalnik za 35\$.
- Majhna poraba - napajanje prek običajnega micro USB napajjalnika (5V) ali baterij.
- Zmogljivosti:
  - procesor 1Ghz ARM,
  - pomnilnik 1GiB,
  - USB, HDMI, ethernet, slušalke, SD kartica,
  - 40 splošnonamenskih signalov (GPIO).

RPi 1

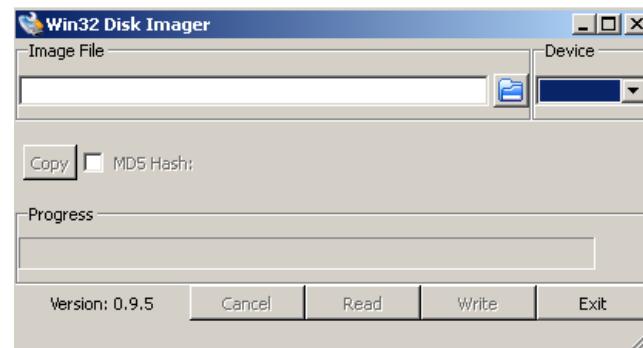
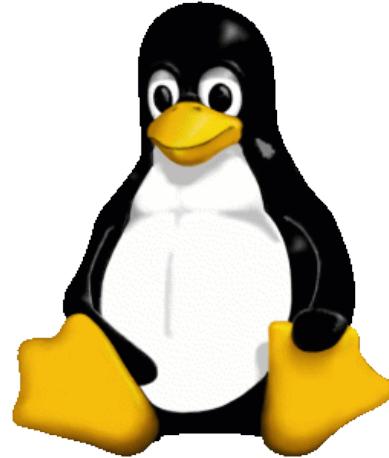


RPi 2 in 3



## Raspbian

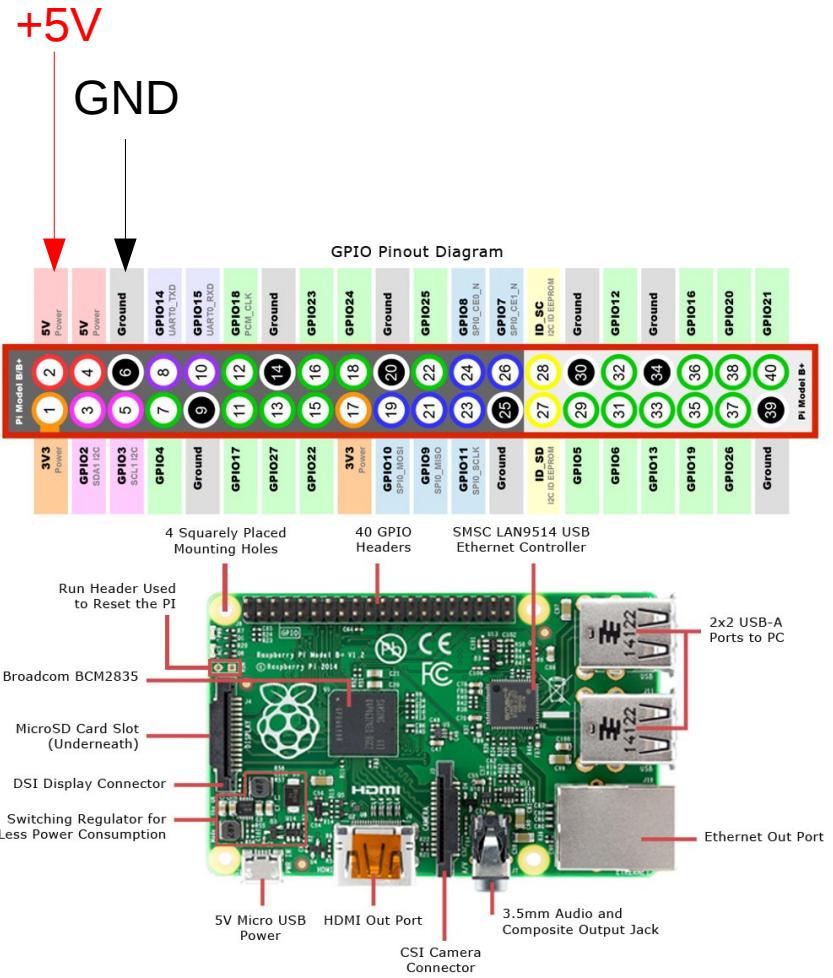
- Raspbian je operacijski sistem za Raspberry PI, temelječ na Linuxu.
- Namestitev:
  - z učilnice prenesite sliko Raspbian,
  - z orodjem Win32DiskImager zapišite preneseno sliko "bit po bit" na SD kartico.





# Prvi zagon

- Preverimo:
  - vstavljeni SD kartici,
  - HDMI->DVI za zaslon,
  - USB miška/tipkovnica,
  - napajanje  
(za potrebe delavnice  
napajamo z  
univerzalnim  
napajalnikom,  
nastavljenim na 5 V  
prek dveh GPIO nožic  
– glej sliko)

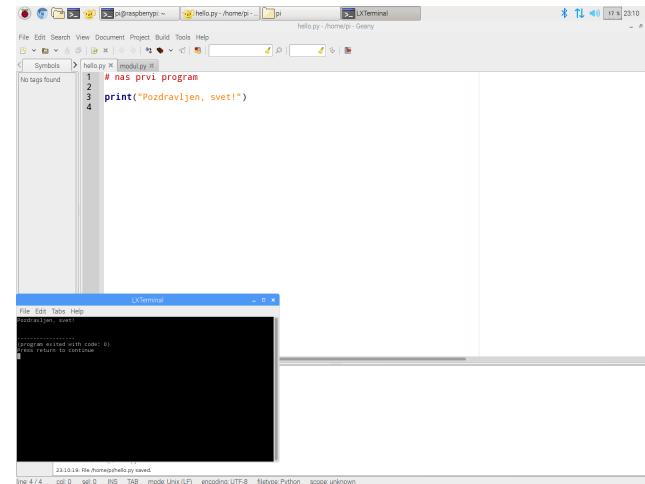
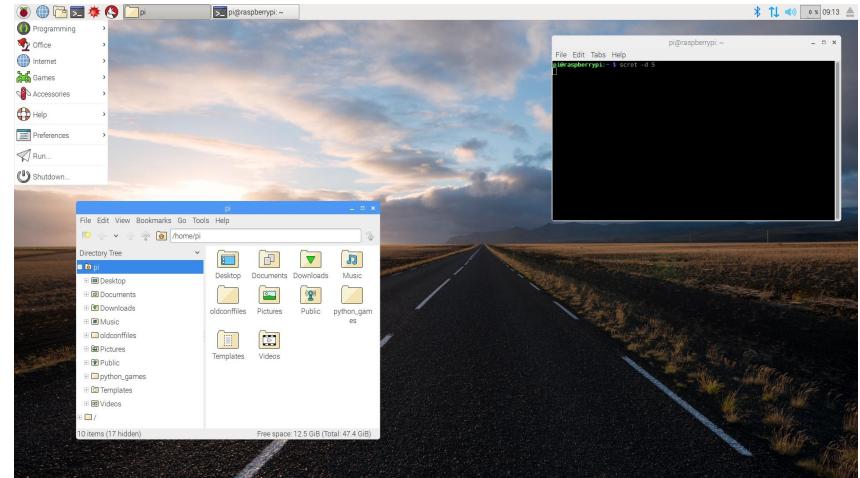




# “Pozdravljen, svet!”

- Ob uspešnem zagonu se nam prikaže namizje.
- V zagonskem meniju levo zgoraj odpremo programersko okolje Geany
- Napišemo naš prvi python program:

```
print("Pozdravljen,  
svet!")
```
- Shranimo kot datoteko hello.py v domačo mapo





## “Pozdravljen, svet!” nadaljevanje

- Program zaženemo s klikom na avionček
  - ikona v resnici odpre terminal in v njem zažene ukaz “python hello.py”
- Naloga:  
Napišite nov program, ki za vnešeno število izračuna njegov ostanek pri deljenju s številom 16 in ostanek izpiše na zaslon.



# “Pozdravljen, svet!” nadaljevanje

The screenshot shows a desktop environment on a Raspberry Pi. At the top, there is a dock with several icons, including a terminal window titled "pi@raspberrypi: ~". Below the dock is a menu bar with File, Edit, Search, View, Document, Project, Build, Tools, and Help. The main workspace contains a code editor window for Geany, which has two tabs open: "hello.py" and "modul.py". The "modul.py" tab contains the following Python code:

```
1 # program izracuna vneseno stevilo po modulu 16
2
3 stevilo = input("Vpisite stevilo: ")
4 stevilo = int(stevilo)%16
5 print("Vase stevilo mod 16 je", stevilo)
6
```

To the left of the code editor is a "Symbols" panel showing variables: "stevilo [3]" and "stevilo [4]". Below the code editor is a terminal window titled "LXTerminal" showing the output of the program:

```
File Edit Tabs Help
Vpisite stevilo: 19
Vase stevilo mod 16 je 3

-----
(program exited with code: 0)
Press return to continue
```

At the bottom of the screen is a status bar with the following information:

Status 23:09:41: File /home/pi/modul.py saved.  
Compiler 23:09:54: File /home/pi/modul.py saved.  
Messages 23:10:14: File /home/pi/modul.py saved.  
Scribble 23:10:19: File /home/pi/hello.py saved.  
Terminal 23:10:43: File /home/pi/modul.py saved.  
23:11:24: File /home/pi/modul.py saved.  
23:11:38: File /home/pi/modul.py saved.  
23:11:57: File /home/pi/modul.py saved.  
23:12:11: File /home/pi/modul.py saved.  
23:12:36: File /home/pi/modul.py saved.  
23:13:10: File /home/pi/modul.py saved.

line: 1 / 6 col: 44 sel: 0 INS TAB mode: Unix (LF) encoding: UTF-8 filetype: Python scope: unknown