Revision Sheet 1:

This is the first Revision sheet that not only points to the topics we discussed in the class but provides a more organized and detailed pointers from where you can study more.

Use this sheet to write your own notes here while revising.

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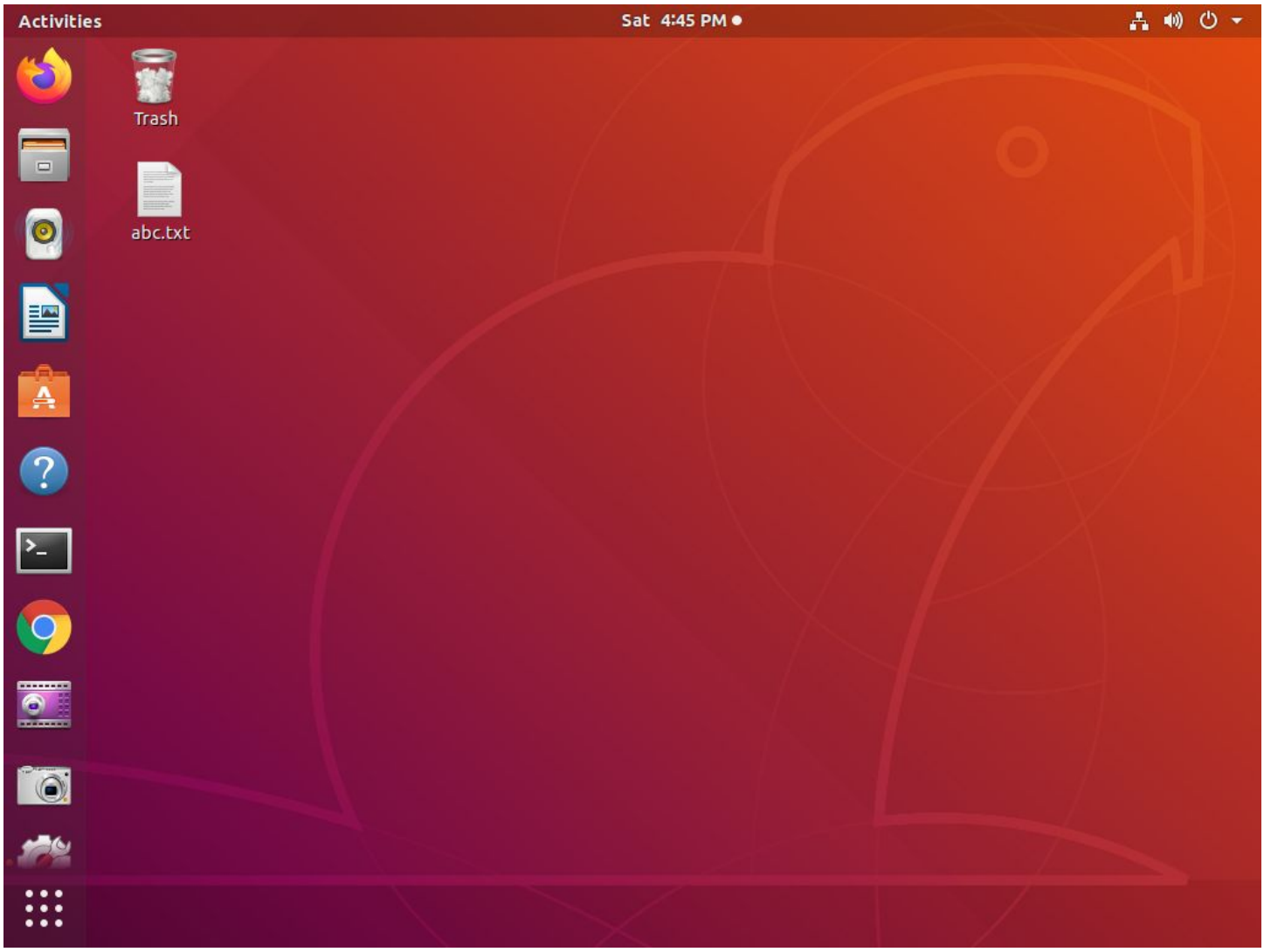
1) Install linux

Dual boot system:
https://www.howtogeek.com/187789/dual-booting-explained-how-you-can-have-multiple-operating-systems-on-your-computer/

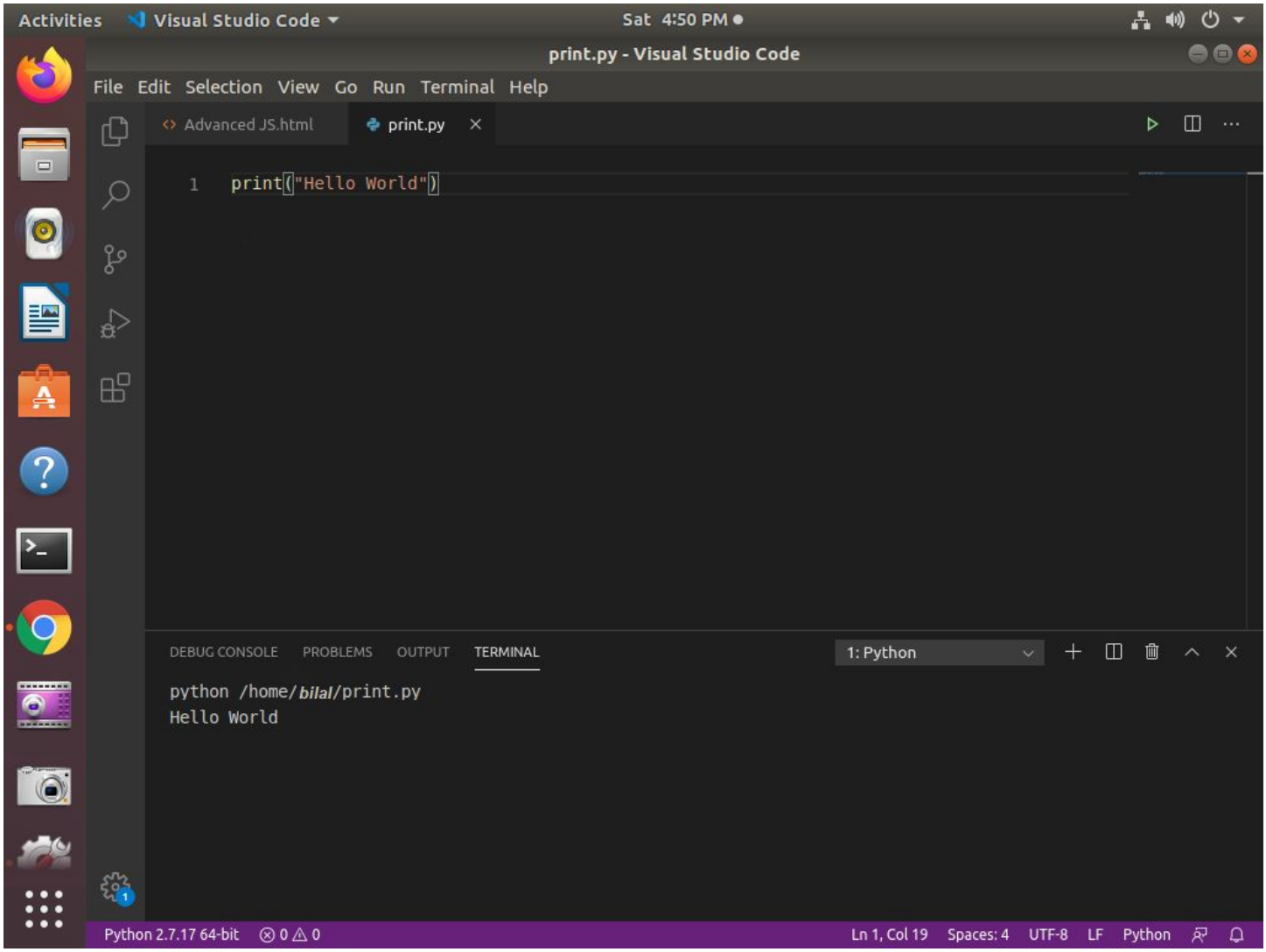
Using Virtual Machine: https://www.howtogeek.com/196060/beginner-geek-how-to-create-and-use-virtual-machines/

Using Windows features: https://www.windowscentral.com/install-windows-subsystem-linux-windows-10



2) Install python: use IDLE as IDE or any other of your choice

IDLE: https://www.python.org/downloads/
Visual Studio Code: https://code.visualstudio.com/docs/languages/python
PyCharm: https://www.jetbrains.com/pycharm-edu/download/index.html



3) Why a combination of breadth-first + programming-first approachers

- In breadth first approach we crack the given problem into small chunks.
- Breadth first approach include understanding the problem.

- Breadth first approach include writing algorithm of the problem.
- Breadth first approach include writing pseudo code of the problem.
- Breadth first approach also include the architecture of the given problem.
- In programming first approach we use the data that we have extracted from the given problem by Breadth-first approach.
- Programming first approach include the coding of given problem.
- Combination of **Breadth-first** and **Programming-first** approach provides effectiveness to any problem.
- It also provides smoothness to the whole process.

4) Why we are shifting from C# to python as first programming language

Following are the reasons that why we are shifting from C# to Python.

- Syntax of python is very easy as compared to C#.
- Python is very fast when it comes to code deploying code.
- Python is a key programming language for Artificial Intelligence , Machine Learning and Data Science.
- Python has amazing libraries that ease programming at an extent.
- Python is Open-Source so it’s easy to use for commercial purposes.
- One of the key features of Python is that it provides readability as compared to C#.

Python is Dynamic Typed Language, but C# is Static Typed Language, when it comes to dynamic languages, the development process is relatively fast and easy. Since C# is a static language, it includes a build/compile step, which some developers are not fond of.

5) Difference between Computer Science, Software Engineering, Information Technology

6)

Computer Science (CS)	Software Engineering (SE)	Information Technology (IT)
Computer Science (CS) focuses on understanding, designing, and developing programs and computers.	Software Engineering (SE) deals with building and maintaining software systems.	Information Technology, mainly study about how to make information based technology such as website, information system, android application.
At its core, Computer Science concentrates on data, data transformation, and algorithms	It is more software-oriented and has a greater emphasis on large software applications than Computer Engineering.	IT education is fundamental for a computer science degree that later leads to job opportunities.
Advanced courses present specialized programming techniques and specific application domains	It is more applied than Computer Science, placing greater emphasis on the entire software development process, from idea to final product.	IT can be specialized in many ways, but CS graduates have opportunities immediately available to them that IT qualified workers don't.

7)

8) Computer Science Careers

https://www.computersciencezone.org/50-highest-paying-jobs-computer-science/
https://www.computerscience.org/careers/

- Data Scientist.
- Machine Learning Expert.
- Data Analyst.
- Technical Developer.
- MERN Stack Developer.
- MEAN Stack Developer.
- Software Developer.
- Network Manager.
- Project Manager.
- Mobile Application Developer.
- System Analyst.