

Problem Domain:	String & Number Practice
Mission Summary:	Convert String / Integral Formats
Prerequisite:	Completion of “Python 1000” (available at Udemy.com)
Your Script Name:	PR02_HexDump.py
Solution Name:	PR02S_HexDump.py & PR02S_HexDump_BONUS.py
Version:	1.0

## Synopsis

New software developers are often challenged by numeric & string formats. While the student who has completed Python 1000 will recall that every character has a numeric representation, we should begin to appreciate that there are many integral formats available. In this exercise, our mission is to display a string of characters in hexadecimal format.

## Requirements

- 1) Create a script called PR02\_HexDump.py
- 2) The job of PR02\_HexDump.py is to
  - A) Prompt a user for a string
  - B) Display, or “dump” their input-string
  - C) Using hexadecimal notation
- 3) BONUS:
  - A) Display your hex dump in an 8-column wide table

0x50	0x79	0x74	0x68	0x6f	0x6e	0x20	0x69
0x73	0x20	0x77	0x68	0x61	0x74	0x20	0x50
0x79	0x74	0x68	0x6f	0x6e	0x20	0x64	0x6f
0x65	0x73	0x20	0x2d	0x20	0x48	0x6f	0x77
0x20	0x6c	0x6f	0x77	0x20	0x63	0x61	0x6e
0x20	0x79	0x6f	0x75	0x20	0x67	0x6f	0x3f

- B) Note that each column in the above table is space delimited

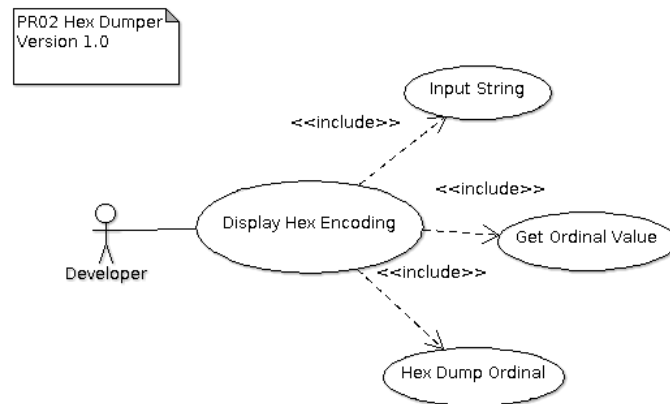
## Developer Notes

- 1) A string is merely a collection of characters
- 2) A character can be converted to its numerical (“**ordinal** number”) representation by using Python’s built-in **ord()** function
- 3) We can use Python’s built-in **hex()** function to convert any integer / ordinal to a hexadecimal string
- 4) Our task therefor is to merely
  - A) Use Python’s built-in **input()** function to return a string from a user
  - B) Convert each character to its ordinal / integer value, then
  - C) Use Python to convert and display each ordinal in hexadecimal
- 5) Refer to the activity diagram (below) for a graphical summary

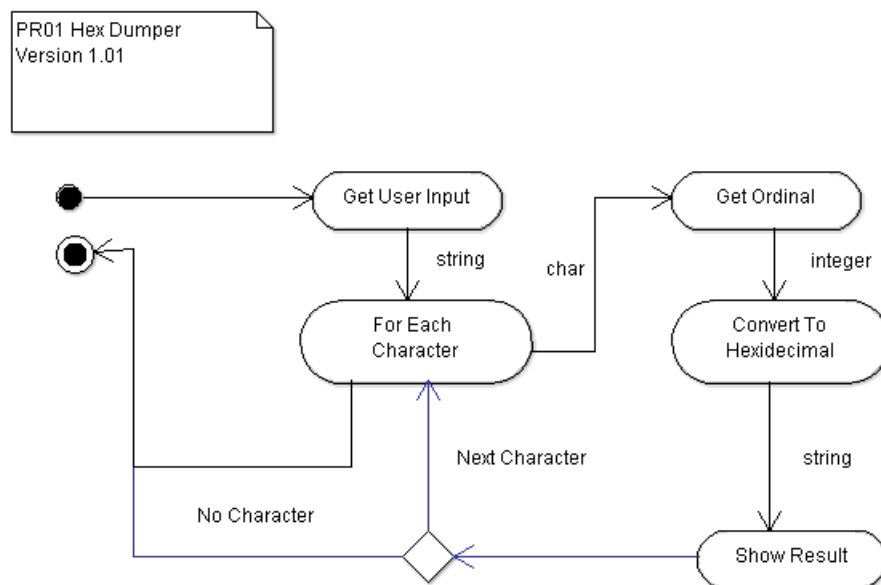
## Related Diagrams

The following is a graphical requirement overview.

1.) The top-level Use Case denotes the capabilities defined in the Developer Notes section:



2.) The main Activity Diagram depicts a graphical summary of the requirements, as well as a reasonably demonstrative operational overview:



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