Session 1: Assignments

1. Read chapter 2 of the following book:

<http://www.ict.ru.ac.za/Resources/cspw/thinkcspy3/thinkcspy3.pdf>

<http://phocode.com/python/python-cac-kieu-du-lieu-co-ban/>

and answer the following questions:

* How to check a variable’s type?

Make a command in python like this:

**Print**(type(variable\_name))

**I.e:**

Print(type(123)) >>> <class ‘int’>

Print(type(3.21)) >>> <class ‘float’>

Print(type(“abc”)) >>> <class ‘str’>

* In what cases, you will get ***SyntaxError*** from the compiler telling you that some of your variables have **invalid names**?  
  Case 1, the variable name doesn’t begin with a letter.

Case 2, the variable name contains illegal character like & or $ or %.

Case 3, the variable name is one of the Python **keywords**. Keywords define the language’s syntax rules and structure, and they cannot be used as variable name.

* Can you give 3 different examples of **invalid names**?

*62tuananh*

*lotte$*

*and / def*

1. Write a program that calculates the **area** of a **circle**. The circle radius is entered by users

Expected screen output:

|  |  |
| --- | --- |
| https://lh3.googleusercontent.com/J0Q3b9lf8J4ZAUgRlzxljQNFJmiovNHjOb1elMEl9LsqvIBkKnl_F7XDuPE5FosgBzuVn_ohcYWlW_wWYl87BfCVDZYq_cO4cB87Foxzeqhbz_P4HUQpJ5SlKsnNBJMrbxSpPP7j0G2pf8p73w | https://lh6.googleusercontent.com/tOfGNaS2Eg6nN3IqAxpetkTZor43nsvpI_S65ND8i1G82hJMSfpH01434iWlMUu3WQ8ta_RUTZva58eayEl3nSg9mt53q7KzbbaC0NaCReZkdzBN_O2QUTSWr0kIAvsiqGDxb2RSZQl-ecBDfg |
| # This one is fine | # This one is a little bit better |
|  |  |

1. Write a program that converts **Celsius** (0C) into **Fahrenheit** (0F)

Expected screen output:

|  |  |
| --- | --- |
| https://lh4.googleusercontent.com/Co-ATspYShjFIibukDi80vOCTpnFWmkiBaMaFPZGYxu0FDnrZZHnQ7vRwZfzwbOJBas4Rgq6iU00teUSSVbSIUz1wdCUIAhBDwgJGvALS4mqaQfOv7au6Ehm8BAIijGMrodukihl26DZXMT6bg | https://lh6.googleusercontent.com/rl6f_DjI5Ue5anWZqwO6Kt-iDXHrp3MZNwj6pXKA7QKcNkBYLHkNKChDB1lM3_rcnP3YMdl8gLmCDeMl0EGUxIIp-K3TZWiuistxoJ2oc3qYWDqHWYjY22IlA7whNDRddUMCg1TQHoKq8YImdwf |
| # This one is fine | # This one is a little bit better |

|  |  |
| --- | --- |
| *http://www.bestappsforkids.com/wp-content/uploads/2012/04/save-turtle.png* | ***Turtle exercise*** |

Use Python Turtle to draw the following shapes

|  |  |
| --- | --- |
| 1. **A square**   https://lh4.googleusercontent.com/Jpy05dcn1ZxHArQnCK2jVt7gT8NTngaKlikjfTAjkQmo0vaWSizpu0u5C-g5CGk7mAECSoccBOePgC1YwwWIcBmv-ArIc2-1a_lclbuj8141ZsGH39wFlQxqKvOLF8naZEGs4bdl |  |
| 1. **A right triangle**   https://lh3.googleusercontent.com/sEK3O-nZuVmDMMFeyFbieq-418pEv1qQ4XjXBS31Ix1S0mxIAxYMWfruC29o9PPrhyJKGSsFropkL9IOR6vhsu75gvjBlwbliZOpEJnueZ6gJKso3t8RzuGYUpwooWQtTcysi8I- |  |
| 1. **A circle (Hint: Google “*Python Turtle Circle*”)**   https://lh3.googleusercontent.com/RK95WD7NmfHNCCj6fnRC91eABAWqIPzOTdZDBPhhlAIJjZfFPJ1g_gXG0LS4Zf__xCepB9yZT10JzdQmzWE6jyCuRryD48LbMr6m2VFAZCt8wd-pN0kgdI5bcRtvYOXcFcOy5W7O |  |
| 1. **Multi-circles**   https://lh4.googleusercontent.com/IhGPHTMnv9skN9rp1B0u1Qkk792e27MMAiL0ccNPOQeO5L_1n8WXyCshh-Rs4ohu8n9VRQ3-geEmMIeyMfQNy-gFwdy8im_TEr6lGTuIZ-8Oxp5C8xs0pTzC6Tse4r4tyrzCMKcn  https://lh4.googleusercontent.com/nMqQ8nptptCb73p-PL5MsD7K5pzRdGyWL_8cKZEQkoIkMd2SmDDUTrbiMmI4kzq386CZqnnDMa6AkX1ONSdl5FkeiR3U2h1D0j813FyU4HI1heb67kGatkPXPVopAsqQYfH7diX3 |  |

|  |  |
| --- | --- |
| system_config_boot.png | ***Tools preparation*** |

Sign up a <https://github.com>  account

Done.

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