Session 1: Assignments

1. Read chapter 2 of the following book:

* *How to check a variable’s type?*

If you are not sure what class a value falls into, Python has a function called type which can tell you.

>>> type("Hello, World!")

<class `str`>

>>> type(17)

<class `int`>

* *In what cases, you will get* ***SyntaxError*** *from the compiler telling you that some of your variables have* ***invalid names****? Can you give 3 different examples of* ***invalid names****?*

If you give a variable an illegal name, you get a syntax error. Illegal names include:

* + Not beginning with a letter.

Eg: 123abc

* + Containing an illegal character

Eg: ke$ha

* + Resembling one of the Python keywords. Keywords define the language’s syntax rules and structure, and they cannot be used as variable names.

Eg: and

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

n = int(input("Radius?"))

area = 3.14 \* n\*\*2

print("Area =", area)

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

c = int(input("Enter the temperature in Celsius"))

f = c\*9/5 +32

print(f)

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

Use Python Turtle to draw the following shapes

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| --- | --- |
| 1. **A square**   https://lh3.googleusercontent.com/FzA6yu_0k-rbhagVk_7791oCywK7p0EeBf5KSYxDvRlWKp80QjyEI4GubTjlea3N7zBKLITPo6uSb0lWIHKO0EUS0KuLQQYKr_XscwC9RL3hvZfdVgGK0uS_vHxozsSd3eiM7YCp  from turtle import \*  fillcolor("yellow")  begin\_fill()  for i in range (4):  forward(100)  left(90)  end\_fill()  mainloop() | 1. **A right triangle**   https://lh6.googleusercontent.com/GfDRpqEOS-4rTK2EmWBxJvwHmFy8-RBEPnP53W-nCCqJIRqTrPCkNe5xRozFK9v5bWsP1vxJWyiibruujVle4AaHG3DXKIgwOneyeYazLdzY-Eppl2ydFvkvzAGgaUjXiGwtfeog  from turtle import \*  fillcolor("yellow")  begin\_fill()  for i in range (3):  forward(100)  left(120)  end\_fill()  mainloop() |
| 1. **A circle (Hint: Google “*Python Turtle Circle*”)**   https://lh3.googleusercontent.com/tUfbMx072zGW6R2GcRL-4vBAC-PuNyqR5F-8E81uTtZr2Efn435GgDZWp7VXxHQYln8EeVZ3tXxKLLlhmzD2J_UZvubQ36xrA6bKYxF1j39VfSlfl2efLURmxRhTImPXQpbTPhtU  from turtle import \*  speed(-4)  color(“green”)  fillcolor("yellow")  begin\_fill()  for i in range(360):  forward(1)  left(1)  end\_fill()  mainloop()  *or*  from turtle import \*  color("green")  fillcolor("yellow")  begin\_fill()  circle(100)  end\_fill()  mainloop() | 1. **Multi-circles**   https://lh6.googleusercontent.com/P7aNtuLyk_7IS8HM0QQNuBLXSa3LuylpwhRBlFmyLAI0IHMLr5TtPmSxh_O2U9WFYt0OCAvLfqDZ2QI_4EfdBjPNx2WRqageBvoaoD2006qNl_p8-m-0gDJg91GXQoJRIJoBeajm  from turtle import \*  speed(-1)  for i in range(6):  color("green")  circle(100)  left(60)  mainloop() |
| **https://lh4.googleusercontent.com/TXNtFTpuVLP7SE1W-cye67Azg1l6Disy538wBBzehThVU4uSKBhWQvV9OOADS8dIPwwgJfPYtt1VkcOTCd-2BBl_fQfYAOD_vKO3bFMSSse6c7pzhy-vfhsW8i2tMP_TCFxPCWyb** | from turtle import \*  n = int(input("Circles"))  speed(-1)  for i in range(n):  color("green")  circle(100)  left(360/n)  mainloop() |