CHALLENGE 4

# Challenge4.py

#

# author: A. N. Other

# date: September 2016

choice = (input("If you would like to find the surface area of a shape enter Surface, "

                "if you would like to find the volume of a shape type Volume?\n\n"))

if choice.lower() == "surface":

    side\_a = int(input("Enter the length of cuboid\n\n"))

    side\_b = int(input("Enter the width of cuboid\n\n"))

    side\_c = int(input("Enter the height of cuboid\n\n"))

    print("\nThe surface area of the cuboid is ",

          side\_a \* side\_b \* 2

          + side\_b \* side\_c \* 2

          + side\_a \* side\_c \* 2

          ,"\n\n")

if choice.lower() == "volume":

        side\_a = int(input("Enter the length of cuboid\n\n"))

        side\_b = int(input("Enter the width of cuboid\n\n"))

        side\_c = int(input("Enter the height of cuboid\n\n"))

        print("\nThe volume area of the cuboid is ", side\_a \* side\_b \* side\_c,"\n\n")

if choice.lower() != "volume" and choice.lower() != "surface":

    print("\nYou can only enter surface of volume""\n\n")

# Testing

'''

print("My assertions are:"

      "\nchoice = surface, side\_a = 6, side\_b = 5, side\_c = 4 output = 148"

      "\nchoice = volume, side\_a = 6, side\_b = 5, side\_c = 4 output = 120"

      "\nchoice = shape output = You can only enter surface or volume")

'''

CHALLENGE 5

# Challenge5.py

#

# author: A. N. Other

# date: September 2016

import math

choice = (input("If you would like to find the surface area of a shape enter Surface, "

                "if you would like to find the volume of a shape type Volume?\n\n"))

if choice.lower() == "surface":

    length = int(input("Enter the length of cylinder\n\n"))

    radius = int(input("Enter the radius of circle\n\n"))

    print("\nThe surface area of the cylinder is ",

          2 \* math.pi \* radius \* length

          + 2 \* math.pi \* radius \*\* 2

          ,"\n\n")

if choice.lower() == "volume":

    length = int(input("Enter the length of cylinder\n\n"))

    radius = int(input("Enter the radius of circle\n\n"))

    print("\nThe volume area of the cuboid is ", math.pi \* radius \*\* 2 \* length,"\n\n")

if choice.lower() != "volume" and choice.lower() != "surface":

    print("\nYou can only enter surface of volume""\n\n")

# Testing

'''

print("My assertions are:"

      "\nchoice = surface, length = 6, radius = 3, output = 169.65"

      "\nchoice = volume, length = 6, radius = 3, output = 169.65"

      "\nchoice = shape output = You can only enter surface or volume")

'''

CHALLENGE 6

# Challenge6.py

#

# author: A. N. Other

# date: September 2016

choice = (input("If you would like to find the surface area of a shape enter Surface, "

                "if you would like to find the volume of a shape type Volume?\n"))

if choice.lower() == "surface":

    base = int(input("Enter the base of the pyramid\n"))

    height = int(input("Enter the height of the pyramid\n"))

    print("\nThe surface area of the pryamid is ", base/2 \* height \* 4 + base \*\* 2,"\n")

if choice.lower() == "volume":

    base = int(input("Enter the base of the pyramid\n"))

    height = int(input("Enter the height of the pyramid\n"))

    print("\nThe volume area of the pyramid is ", base \*\* 2 \* height / 3,"\n")

if choice.lower() != ("volume" or "surface"):

    print("\nYou can only enter surface or volume""\n")

# Testing

'''

print("My assertions are:"

      "choice = surface, base = 5, height = 4, output = 65"

      "choice = volume, base = 5, height = 4, output = 33.33"

      "choice = shape output = You can only enter surface or volume")

'''