

EECE.2160: ECE Application Programming

Programming Assignment #2: Basic I/O and Operations

Test Cases

The results of four full program runs are shown below, with user inputs underlined. Remember, when running the program in submit mode in zyBooks, user inputs are not shown.

TEST CASE 1

Enter sphere radius (cm): 7

Enter base length and height of pyramid (cm): 3.5 0.5

Enter length, width, and height of box (cm): 1.2 3.4 5.6

Sphere information:

Radius = 7.00 cm

Surface area = 615.7522 square cm

Volume = 1436.7550 cubic cm

Pyramid information:

Base length = 3.50 cm

Height = 0.50 cm

Surface area = 24.9902 square cm

Volume = 2.0417 cubic cm

Box information:

Length = 1.20 cm

Width = 3.40 cm

Height = 5.60 cm

Surface area = 59.6800 square cm

Volume = 22.8480 cubic cm

TEST CASE 2

Enter sphere radius (cm): 2.10202

Enter base length and height of pyramid (cm): 1.026 31.2021

Enter length, width, and height of box (cm): 10.9999 8.675309 19.99

Sphere information:

Radius = 2.10 cm

Surface area = 55.5244 square cm

Volume = 38.9044 cubic cm

Pyramid information:

Base length = 1.03 cm

Height = 31.20 cm

Surface area = 65.0880 square cm

Volume = 10.9486 cubic cm

Box information:

Length = 11.00 cm

Width = 8.68 cm

Height = 19.99 cm

Surface area = 977.4699 square cm

Volume = 1907.5964 cubic cm

TEST CASE 3

Enter sphere radius (cm): 217

Enter base length and height of pyramid (cm): 2160 5535

Enter length, width, and height of box (cm): 20 21 22

Sphere information:

Radius = 217.00 cm

Surface area = 591737.8259 square cm

Volume = 42802369.4038 cubic cm

Pyramid information:

Base length = 2160.00 cm

Height = 5535.00 cm

Surface area = 29027728.5770 square cm

Volume = 8608032000.0000 cubic cm

Box information:

Length = 20.00 cm

Width = 21.00 cm

Height = 22.00 cm

Surface area = 2644.0000 square cm

Volume = 9240.0000 cubic cm

TEST CASE 4

Enter sphere radius (cm): 0.1

Enter base length and height of pyramid (cm): 0.23 0.45

Enter length, width, and height of box (cm): 0.678 0.901 0.234

Sphere information:

Radius = 0.10 cm

Surface area = 0.1257 square cm

Volume = 0.0042 cubic cm

Pyramid information:

Base length = 0.23 cm

Height = 0.45 cm

Surface area = 0.2666 square cm

Volume = 0.0079 cubic cm

Box information:

Length = 0.68 cm

Width = 0.90 cm

Height = 0.23 cm

Surface area = 1.9607 square cm

Volume = 0.1429 cubic cm