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): 9
Enter base radius and height of cone (cm): 21.60 20.21
Enter base width, length, and height of triangular prism (cm): 0.5 0.75 0.875

Sphere information:
Radius = 9.00 cm
Surface area = 1017.8760 square cm
Volume = 3053.6281 cubic cm

Cone information:
Base radius = 21.60 cm
Height = 20.21 cm
Surface area = 3473.0248 square cm
Volume = 9874.2117 cubic cm

Prism information:
Base width = 0.50 cm
Length = 0.75 cm
Height = 0.88 cm
Surface area = 2.1775 square cm
Volume = 0.1641 cubic cm
```

TEST CASE 2
`Enter sphere radius (cm):` <u>`9.49`</u>
`Enter base radius and height of cone (cm):` <u>`1.2 3.4`</u>
`Enter base width, length, and height of triangular prism (cm):` <u>`5.6 7.8`</u>
<u>`9.1`</u>

`Sphere information:`
`Radius = 9.49 cm`
`Surface area = 1131.7286 square cm`
`Volume = 3580.0348 cubic cm`

`Cone information:`
`Base radius = 1.20 cm`
`Height = 3.40 cm`
`Surface area = 18.1165 square cm`
`Volume = 5.1271 cubic cm`

`Prism information:`
`Base width = 5.60 cm`
`Length = 7.80 cm`
`Height = 9.10 cm`
`Surface area = 243.1681 square cm`
`Volume = 198.7440 cubic cm`

TEST CASE 3
`Enter sphere radius (cm):` <u>`950`</u>
`Enter base radius and height of cone (cm):` <u>`916 2021`</u>
`Enter base width, length, and height of triangular prism (cm):` <u>`55 15 5`</u>

`Sphere information:`
`Radius = 950.00 cm`
`Surface area = 11341149.4795 square cm`
`Volume = 3591364001.8287 cubic cm`

`Cone information:`
`Base radius = 916.00 cm`
`Height = 2021.00 cm`
`Surface area = 9021285.0845 square cm`
`Volume = 1775766582.1925 cubic cm`

`Prism information:`
`Base width = 55.00 cm`
`Length = 15.00 cm`
`Height = 5.00 cm`
`Surface area = 1938.5255 square cm`
`Volume = 2062.5000 cubic cm`

<u>TEST CASE 4</u>
Enter sphere radius (cm): <u>.9</u>
Enter base radius and height of cone (cm): <u>.8 .7</u>
Enter base width, length, and height of triangular prism (cm): <u>.6 .5</u>
<u>.4</u>

Sphere information:
Radius = 0.90 cm
Surface area = 10.1788 square cm
Volume = 3.0536 cubic cm

Cone information:
Base radius = 0.80 cm
Height = 0.70 cm
Surface area = 4.6823 square cm
Volume = 0.4691 cubic cm

Prism information:
Base width = 0.60 cm
Length = 0.50 cm
Height = 0.40 cm
Surface area = 1.0400 square cm
Volume = 0.0600 cubic cm