**Task\_01:** **Volume Calculation**

Your first task is to write an algorithm to calculate the volume of an eggshell given in the picture below. Where a is the equatorial radius, b defines the short polar radius which is the distance between the equator and the nearest pole & c is the long polar radius which is the distance from the egg's equator to the farthest pole. a= 10, b=7, c=12

**Answer:**

Integer a,b,c

Constant float Pi = 3.14

Float v

Display “Enter three numbers”

Input a,b,c

V=(2\*Pi\*a\*a\*(b+c))/3

Display “Total Volume”

**Task\_02: Surface Area**

The next step is to calculate the surface area of 1 egg. Keeping in view the image given below, you can derive that the surface area of an egg is dependent on its major axis represented as b, and minor axis represented as a. You don't need to write the pseudocode in this step. You are required to show the flow of calculations in this step. Also, mention the data types being used. Consider a=44 and b=56

**Answer:**

//int a,b

//float e,A

//Input a,b

**Display “Area”**

**A=2\*Pi\*b\*b+((2\*Pi\*a\*b\*arcsine)/e**

**E=sqrt(1-(b\*b)/(a\*a))**

**Display “Enter two numbers“**

**Task\_03: Number of Eggs**

After using the techniques of image processing, we got the area of image which is 147,682.907mm^2 and the area of eggshells is 25.77% of this area. Your job is to write the pseudocode to find the exact area using this information and calculate the number of eggs based on your derived results. The formula for a number of eggs is given below:

**Answer:**

Float ei , es ,ne ,A

Set ei = 147682.907

es = (147682.907\*25.77)/100

Display “Eggshell Area”

ne = es/A //A value is already calculated in part 2

Display “No.of egg”

**Task\_04: Total Volume of Egg yolk**

After the research, scientists discovered that egg yolk comprises 65% of the total egg volume. You have to find the volume of egg yolk for n number of eggs. Where n is the number of eggs you found in 3rd part? Both the Pseudocode and flow of calculation are required in this step

**Answer:**

Float v, ey, ne, yolk

Set ey = v\*65/100 //Value of v from part 1

Display “Volumn of egg volk”

Set yolk=ey\*ne

Display “ For n number of eggs” //Value of ne from part 3

Display “For n number of eggs”

yolk = ne\*ey

Display “Volume”

Ey = v\*65/100

**Bonus Task:**

You have to write pseudocode in which you’ll save the dinosaurs’ name along with its age in a single variable and display it.

Name=’Spinosaurus’

Age=60

**Answer:**

String a

Set a= “Spinosaurus”

Display “Name=a”

Set a=”60”

Display “Age=”a