***Assignment No-2***

***1. Accept dimensions of a cylinder and print the surface area and volume (Hint: surface area = 2πr 2 + 2πrh, volume = πr 2h)***

***#include <stdio.h>***

***#define PI 3.14159***

***int main() {***

***float radius, height, surfaceArea, volume;***

***// Accept input***

***printf("Enter radius and height of cylinder: ");***

***scanf("%f%f", &radius, &height);***

***// Calculate surface area and volume***

***surfaceArea = 2 \* PI \* radius \* radius + 2 \* PI \* radius \* height;***

***volume = PI \* radius \* radius \* height;***

***// Display results***

***printf("Surface Area = %.2f\n", surfaceArea);***

***printf("Volume = %.2f\n", volume);***

***return 0;***

***}***

***2. Accept initial velocity (u), acceleration (a) and time (t). Print the final velocity (v) and the distance (s) travelled. (Hint: v = u + at, s = u + at2 )***

***#include <stdio.h>***

***int main() {***

***float u, a, t, v, s;***

***// Accept input***

***printf("Enter initial velocity (u), acceleration (a), and time (t): ");***

***scanf("%f%f%f", &u, &a, &t);***

***// Calculate final velocity and distance***

***v = u + a \* t;***

***s = u \* t + 0.5 \* a \* t \* t;***

***// Display results***

***printf("Final Velocity = %.2f\n", v);***

***printf("Distance Travelled = %.2f\n", s);***

***return 0;***

***}***

***3. Accept inner and outer radius of a ring and print the perimeter and area of the ring (Hint: perimeter = 2 π (a+b) , area = π (a2 -b 2 ) )***

***#include <stdio.h>***

***#define PI 3.14159***

***int main() {***

***float innerRadius, outerRadius, perimeter, area;***

***// Accept input***

***printf("Enter inner and outer radius of the ring: ");***

***scanf("%f%f", &innerRadius, &outerRadius);***

***// Calculate perimeter and area***

***perimeter = 2 \* PI \* (innerRadius + outerRadius);***

***area = PI \* (outerRadius \* outerRadius - innerRadius \* innerRadius);***

***// Display results***

***printf("Perimeter = %.2f\n", perimeter);***

***printf("Area = %.2f\n", area);***

***return 0;***

***}***

***4. Accept three dimensions length (l), breadth(b) and height(h) of a cuboid and print surface area and volume (Hint : surface area=2(lb+lh+bh ), volume = lbh )***

***#include <stdio.h>***

***int main() {***

***float length, breadth, height, surfaceArea, volume;***

***// Accept input***

***printf("Enter length, breadth and height of the cuboid: ");***

***scanf("%f%f%f", &length, &breadth, &height);***

***// Calculate surface area and volume***

***surfaceArea = 2 \* (length \* breadth + length \* height + breadth \* height);***

***volume = length \* breadth \* height;***

***// Display results***

***printf("Surface Area = %.2f\n", surfaceArea);***

***printf("Volume = %.2f\n", volume);***

***return 0;***

***}***

***5. Accept a character from the keyboard and display its previous and next character in order. Ex. If the character entered is ‘d’, display “The previous character is c”, “The next character is e”.***

***#include <stdio.h>***

***int main() {***

***char ch;***

***// Accept input***

***printf("Enter a character: ");***

***scanf(" %c", &ch); // space before %c to consume any leftover whitespace***

***// Display previous and next characters***

***printf("Previous character is %c\n", ch - 1);***

***printf("Next character is %c\n", ch + 1);***

***return 0;***

***}***

***6. Accept a character from the user and display its ASCII value.***

***#include <stdio.h>***

***int main() {***

***char ch;***

***// Accept input***

***printf("Enter a character: ");***

***scanf(" %c", &ch); // space before %c to ignore newline***

***// Display ASCII value***

***printf("The ASCII value of '%c' is %d\n", ch, ch);***

***return 0;***

***}***

***7. Accept two integers from the user and interchange them. Display the interchanged numbers.***

***#include <stdio.h>***

***int main() {***

***int a, b, temp;***

***// Accept input***

***printf("Enter two integers: ");***

***scanf("%d%d", &a, &b);***

***// Swap values using a temporary variable***

***temp = a;***

***a = b;***

***b = temp;***

***// Display swapped values***

***printf("After swapping: a = %d, b = %d\n", a, b);***

***return 0;***

***}***