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1: #include <stdio.h>
2: #include <math.h>
3:
4: int main() {
5:     int choice;
6:     float radius, side, length, width, base, height, area;
7:
8:     printf("Select the shape to calculate area:\n");
9:     printf("1. Circle\n");
10:    printf("2. Square\n");
11:    printf("3. Rectangle\n");
12:    printf("4. Triangle\n");
13:    printf("Enter your choice (1-4): ");
14:    scanf("%d", &choice);
15:
16:    switch (choice) {
17:        case 1:
18:            printf("Enter the radius of the circle: ");
19:            scanf("%f", &radius);
20:            area = M_PI * radius * radius; // Area of circle =  $\pi r^2$ 
21:            printf("The area of the circle is: %.2f\n", area);
22:            break;
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23:
24:     case 2:
25:         printf("Enter the side of the square: ");
26:         scanf("%f", &side);
27:         area = side * side; // Area of square = side2
28:         printf("The area of the square is: %.2f\n", area);
29:         break;
30:
31:     case 3:
32:         printf("Enter the length and width of the rectangle: ");
33:         scanf("%f %f", &length, &width);
34:         area = length * width; // Area of rectangle = length * width
35:         printf("The area of the rectangle is: %.2f\n", area);
36:         break;
37:
38:     case 4:
39:         printf("Enter the base and height of the triangle: ");
40:         scanf("%f %f", &base, &height);
41:         area = 0.5 * base * height; // Area of triangle = 1/2 * base * height
42:         printf("The area of the triangle is: %.2f\n", area);
43:         break;
44:
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45:         default:
46:             printf("Invalid choice! Please enter a number betwe
47:             break;
48:     }
49:
50:     return 0;
51: }
52:
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