

```
1: #include <stdio.h>
2: #include <math.h>
3:
4: int main() {
5:     int choice;
6:     float radius, side, length, width, base, h;
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
21:            printf("The area of the circle is: %f\n", area);
22:            break;
23:
24:        case 2:
25:            printf("Enter the side of the square: ");
26:            scanf("%f", &side);
27:            area = side * side; // Area of square
28:            printf("The area of the square is: %f\n", area);
29:            break;
30:
31:        case 3:
```

```
32:         printf("Enter the length and width\n");
33:         scanf("%f %f", &length, &width);
34:         area = length * width; // Area of rectangle
35:         printf("The area of the rectangle is: %f\n", area);
36:         break;
37:
38:     case 4:
39:         printf("Enter the base and height\n");
40:         scanf("%f %f", &base, &height);
41:         area = 0.5 * base * height; // Area of triangle
42:         printf("The area of the triangle is: %f\n", area);
43:         break;
44:
45:     default:
46:         printf("Invalid choice! Please enter a valid choice\n");
47:
48: }
49:
50: return 0;
51: }
52:
```