

Assignment questions for structures

1. Define a structure named Rectangle that includes two members: length and width, both of type float. Write a function printRectangle that takes a Rectangle structure as an argument and prints its length and width.
2. Define a structure Person with the members name (string of 50 characters) and age (integer). Write a program to initialize a Person structure with your own details and then print the name and age of the person.
3. Define a structure Circle with members radius (float) and color (string of 20 characters). Write a function updateRadius that takes a pointer to a Circle structure and a new radius value, updates the radius of the circle, and then prints the updated radius.
4. Define a structure Course with members courseName (string of 100 characters) and credits (integer). Define another structure Student with name (string of 50 characters), age (integer), and an array of Course structures. Write a function to print the details of a Student including all the courses they are enrolled in.
5. Write a C program to take information from user using structures like roll number, name, standard and percentage. Print them as well.
6. Write a C program to print the temperature and pressure of a heat chamber on the given console one by one with efficient memory usage through unions.
7. Define a union named Vehicle that can store either the number of wheels (int), the engine capacity (float), or the vehicle type (char[20]). Write a program to demonstrate how to use this union to store and print all three types of data.
8. Define an enum ShapeType with values CIRCLE, RECTANGLE, SQUARE and TRIANGLE. Write a C program that uses a switch statement to print a description for each shape type. For example, "CIRCLE: A round shape", "RECTANGLE: A shape with four right angles", etc.
9. Write a C program that defines an enum Operation with values ADD, SUBTRACT, MULTIPLY, and DIVIDE. Write a function performOperation that takes two integers and an Operation enum value, performs the corresponding operation, and returns the result. Demonstrate this function in your main function.
10. Write a C program that defines an enum Operation with values ADD, SUBTRACT, MULTIPLY, and DIVIDE. Write a function performOperation that takes two integers and an Operation enum value, performs the corresponding operation, and returns the result. Demonstrate this function in your main function. **Take 2 integer values from user.**