PROGRAMMING BEGINNER TO ADVANCED

Function Overloading

1. Write a class with name Area using function overloading that computes the area of a parallelogram, a rhombus and a trapezium. Area of a parallelogram (pg) = b*h , Area of a rhombus (rh) = $\frac{1}{2}$*d1*d2 (d1 & d2 are the diagonals) , Area of a trapezium (tr) = $\frac{1}{2}$*(a + b)* h (where a and b are the parallel sides, h= perpendicular distance the parallel sides)

2. Write a class with the name volume using function overloading that computes the volume of a cube, a sphere and a cuboid. Volume of a cube (vc) = s*s*s , Volume of a sphere (vs) = $\frac{4}{3}$ * **π** *r*r*r , Volume of a cuboid (vcd) = l*b*h.

3. Write a program to interchange the value (swap) of the two numbers a and b and display the result after swapping. Use overload function display (int,int) and display(float,float) for swapping integer and float type values.

4. Write a class with the name Perimeter using function overloading that computers the perimeter of a square, a rectangle and circle. Perimeter of a square =4*s , Perimeter of a rectangle = 2*(l+b) , Perimeter of a circle= 2* **π** * r

5. Design a class over loading a function calculate( ) as follows :
i) void calculate (int m, char ch) with one integer argument and one character argument. It checks if the integer argument is disable by 7 or not , if ch is 's' otherwise , it checks the last digit of the integer argument contains 7 or not.
ii) void calculate (int a ,int b, char ch) with two integer arguments and one character argument. It displays the greater of integer arguments if ch is 'g' otherwise, displays the smaller of integer arguments.

6. Design a class overloading a function display() as follows:
i) void display(String str, int p) with one string argument and one integer argument. It displays all the uppercase characters if 'p' is 1 (one) otherwise , display all the lowercase characters.
ii) void display(String str, char char) with one String argument and one character argument. It displays all the vowels if chr is 'v' otherwise , displays all the alphabets.

7. Design a class to overload a function manip() as follows:
i) void manip (String str, int p) with one String argument and one integer argument. It displays the characters of even positions of String, if p is an even number otherwise , displays the characters of odd positions.
ii) void mainip (int a, char ch) with one integer argument and one character argument

8. Design a class to overload a function absolute() to convert the given value absolute value. Functions are **int absolute(int var) & float absolute(float var)** .**Output:** Absolute value of -5 = 5 Absolute value of 5.5 = 5.5