Problem List:

1. Write a program that prompts the user to input the radius of a circle and print its area and perimeter using the following formula and format the output (up to 2 decimal points).

        perimeter = 2 * radius * PI, area = radius * radius * PI

2. Write a program that prompts the user to input two integers a, b and print the prime numbers between them. You must have to write a function that determines if a number is prime or not. [Hint: int isPrime(int x);]

3. Write a program that reads credit hours and earned grade points for 3 courses and prints the final CGPA for that semester. [Hint: You have to use an array to implement the logic here.]

4. Print the following patterns:

a)   b)

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*                                                                  +
+ +                                                               ++
* * *                                                            +++
+ + + +                                                        ++++
* * * * *                                                    +++++
```

5. Complete the following tasks.

Complex
- real: double - imaginary: double
+ Complex() + Complex(r:double, i:double) + operator+(a: Complex): Complex + operator-(a: Complex): Complex + operator*(a: Complex): Complex + operator/(a: Complex): Complex + getModulusValue():double + printComplex(): void

a) Convert the UML diagram into codes (Complex.h, Complex.cpp).
b) Create two instances of Complex class and print their modulus values and complex format.
c) Perform overloaded addition, subtraction, multiplication and division operations on created two complex instances and print their modulus and complex format.

[**N.B:** You can take help from the internet for the logic part. But don't copy-paste or submit others' work.]