

CSE321 Real-time and Embedded System Fall 2016

1 HWK1: PRIMALITY TEST

1.1 GOALS

Here are the goals for this homework to:

- Be able to apply algorithmic problem solving skills you learned in CS1, CS2 and Data Structures courses.
- Improve your C language proficiency.
- Introduce yourself to CodeCon platform.
- Learn to create an App (android or IOS).

1.2 PROBLEM STATEMENT

Write a program that takes an integer as input and then determines whether or not that integer is a prime number or a composite number.

2 PROBLEM DESCRIPTION

2.1 INTRODUCTION

A prime number is a natural number greater than 1 that has no positive divisors other than 1 and itself. A natural number greater than 1 that is not a prime number is called a composite number.

2.2 INPUT SPECIFICATIONS

Your program will input is an integer N . $N < 500$.

2.3 OUTPUT SPECIFICATIONS

Print out:

- prime if the input is a prime number
- composite if the input is a composite number

2.4 SAMPLE INPUT/OUTPUT

Sample input

6

Output

Composite

Explanation

6 is a composite because it has the divisors 2 and 3 and divisors 1 and 6

Sample input

5

Output

Prime

Explanation

5 is a prime number because it only has the divisors of 1 and 5

3 WHAT DO TO?

Read the problem and understand it. Think about approaches to solving the problem. Write down the algorithm (pseudo code).

1. Solve this problem using **CodeCon platform**. You are required to use C language only. That is the limitation for this problem on CodeCon. Your submissions will be auto-graded. Pay attention to the time and space limits. We will give you more information about CodeCon access very soon.
2. Code it in as an **Android app**. Teaching-assistants will help you with this. You will start with
 - Setting up the android studio: <https://developer.android.com/studio/index.html>
 - There are 2 aspects: interface design and code/control design and implementation, and also using intents.
 - You will port the code solved in CodeCon to android environment (Java). Input N and send the result to your email address or a specified email address.
 - Test the app on the emulator and deploy the app to your phone.
 - This will be graded by your TA after your demo it him/her, grades will be entered into ublearns.
3. Note that CodeCon platform will serve as development environment for your application and your mobile app platform is the production environment.

4 DUE DATE: 9/30/2016 BY 4PM: HARD DEADLINE
