



Inspiring Excellence

Course Title: Programming Language II

Course Code: CSE 111

Semester: Summer 2020

Assignment no: 1

Topic: Iteration and Condition

Easy

- 1.Count and print the numbers that are either divisible by 3 or 5 or both, from 1 to 30.
2. Find the maximum number among three numbers. [N.B: you do not know whether they are unique in value or not. Therefore, check all the possible conditions.]

Sample Input

17 53 33

Sample Output

53

3. BRAC UNIVERSITY has following rules for grading system:

- a. Equal to or above 90 - A
- b. Greater than or equal to 85 - less than or equal to 89 - A-
- c. Greater than or equal to 80 - less than or equal to 84 - B+
- d. Greater than or equal to 75 - less than or equal to 79 - B
- e. Greater than or equal to 70 - less than or equal to 74 - B-
- f. Greater than or equal to 65 - less than or equal to 69 - C+
- g. Greater than or equal to 60 - less than or equal to 64 - C
- h. Greater than or equal to 57 - less than or equal to 59 - C-
- i. Greater than or equal to 55 - less than or equal to 56 - D+
- j. Greater than or equal to 52 - less than or equal to 54 - D
- k. Greater than or equal to 50 - less than or equal to 51 - D-
- l. Less than 50 - F

Ask users to enter marks and print the corresponding grade.

Sample Input

92
79
65

Sample Output

A
B
C+

4. Determine whether a number is prime or not. [N.B. prime number is divisible by 1 and the number itself]

Medium

1. Print all the fibonacci numbers from 0 - N, where N is a user defined number. (Fibonacci numbers is a number which is the summation of the previous two fibonacci numbers starting from 0. Like 0 1 1 2 3 5...)

Sample Input

10

Sample Output

0 1 1 2 3 5 8

2. Print the reverse of a given integer without using any built in function.

Sample Input

12345

Sample Output

54321

3. Determine whether a number is a perfect number or not. [N.B. Perfect number is a number which divisors' summation is equal to the number itself. e.g. 6 is a perfect number. It's divisors are 1, 2 and 3; $1+2+3=6$].

Sample Input

6

5

Sample Output

Perfect Number

Not Perfect

Hard

1. Count the total number unique digits of a given number.

Sample Input

122345

Sample Output

5.

2. Print a pyramid like structure of size N which will be user defined. If the user inputs N=3, then the pyramid will look like the following

Sample Input

3

Sample Output

```
  *
 * *
*****
 * *
 *
```

3. From a given integer, print the smallest possible number that consists of the same number of binary 1 of the given number. For example, the binary of 37 is 100101. Smallest number consisting of three 1's is 7 which is 111.

Sample Input

37

Sample Output

7