INC 141
Computer Programming

Lab 9

Learning Outcomes (Lab 9)

- Write complex well-known programming tasks
  - Fibonacci series
  - Calculate prime number

Preprocessing commands

```
#define NUM 10000000

main ()

{



}
```

#define will substitute NUM with 10000000

Task 1 (Upload to LEB2)

Write a flowchart/program that print out Fibonacci series up to less than 10,000,000.

1 2 3 5 8 13 ...

The next number come from the sum of the two previous numbers.

1 + 2 = 3
2 + 3 = 5
3 + 5 = 8
5 + 8 = 13

Task 2 (Upload to LEB2)

Write a flowchart/program that receives 1 integer from the keyboard and determine whether it is a prime number and print it out on the screen.

Example:

2 is prime
3 is prime
4 is not prime
5 is prime

Idea:

Prime definition

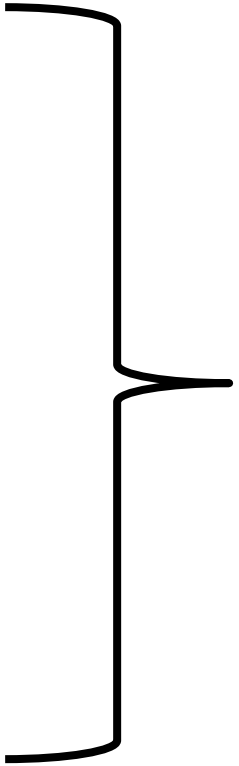
Prime number is a number that can be divided by only 1 and itself.

How to write a program?

Try running a counter from 1 to the entered number. Count the number of time that the entered number can be divided by the counter. The number is prime if the count is 2.

Example: Calculate whether 9 is a prime?

9 mod 1	= 0	Yes
9 mod 2	= 1	No
9 mod 3	= 0	Yes
9 mod 4	= 1	No
9 mod 5	= 4	No
9 mod 6	= 3	No
9 mod 7	= 2	No
9 mod 8	= 1	No
9 mod 9	= 0	Yes



3 Yes
Not prime

Homework (Submit to LEB2)

Write a program that count the number of Fibonacci numbers between 1 – 10,000,000

Extra Tasks

Write a program that calculate the sum of prime numbers between 1 – 10,000