





**MICROPROCESSOR AND INTERFACING**

**Experiment 14**

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**AIM - To find prime numbers between 1 and n**

# Algorithm

**CODE**

1. Take n as input
2. Run a loop from i = n to 1. For each iteration, check if i divides n completely or not. If it

does, then i is n’s divisor

1. Keep a count of the total number of divisors of n
2. If the count of divisors is 2, then the number is prime, else composite

Data Segment ORG 0000

primenum db 0ch dup(?) Data Ends

Code Segment

assume cs:code, ds:data start:mov ax,data

mov ds,ax mov dl,1 mov cx,0ch

mov si,offset primenum L1:mov bl,2

add dl,1 cmp dl,2 je insert

logic:mov ah,0 mov al,dl

div bl cmp ah,0 je L1

add bl,1 cmp bl,al jb logic jmp insert

insert:mov [si],dl inc si

loop L1 mov ah,4ch int 21h

Code Ends end start

# Manual Calculation

Number = 0c (12)

Prime numbers between 1 to 0c(12) Therefor the prime numbers are:

**Hexadecimal :** 02 03 05 07 0B

**Decimal :** 2 3 5 7 11

# Results

