

Lab assignment 3

Date:

M. Sc. 2nd year (fourth semester)

Group A & B

Prints all factors:

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int i,x; printf("Give number"); scanf("%d",&x); for(i=2;i<=x;i++) { if
(x%i==0){printf("%d\n",i);}}
```

Find smallest factor:

```
int i,x; scanf("%d",&x); i=2; while(x%i!=0)i=i+1;printf("%d",i);
```

Ex: Input=385, Output: 5, 7, 11, 35, 55, 77, 385, smallest factor=5.

1. Read a number and print sum of all factors.

Ex: Input: 24 Output: 2+3+4+6+8+12+24=59

2. Read a number and print number of factors.

Ex: Input=24, Output: 7.

3. Read a number and check whether it is prime or not.

Ex: Input 20, Output: "Not prime". Input: 37, Output: "Prime".

4. Read a number and print the biggest factor other than itself.

Ex: Input=385, factors: 5, 7, 11, 35, 55, 77, 385, Output=77.

5. Read two numbers and print all common factors.

Ex: Input: 24 and 54, output: 2, 3, 6.

6. Read two numbers and find the greatest common factor.

Ex: Input: 24 and 54, output: 1.

7. Read two numbers and find the smallest common factor.

Ex: Input: 24 and 15, output: 3.

8. Read a number 'n' and read an integer 'k'. Print the kth factor of 'n'.

Ex: Input: 24 and k=5, Output=8.

9. Read two numbers and find least common multiplier. Hence find the greatest common divisor.

Ex: Input: 24 and 54. Output: 216 (lcm), 6 (gcd).