## Features of C:

1. C is a multi-purpose language.
2. It is a procedure oriented language.
3. C comes with rich set [ more ] of operators.
4. C comes different data types.

## What is data type?

To store anything in our computer we should have to allocate the memory i.e. bytes. This memory or bytes features like

1. No of bytes
2. Type of data
3. Value range

basically the data types divided into 3 types.

1.int ➔ for storing non decimal numbers

2. float ➔ for storing both decimal & non decimal

3. char ➔ for storing alphabets, numbers and special char's

Again these basic data types divided into 3 types:

1. Primitive data types: commonly used data types.

   Decided by the data types.

NON-DECIMAL NUMBERS-INTEGER

Short int / int / signed int ➔ +ve & -Ve

Integer ➔ -32768 to +32767 ➔ %d ➔ 2 bytes

int sal = 18000;

unsigned int ➔ 0 to 65535 ➔ %u ➔2 bytes

unsigned int sal = 55000;

signed long int ➔ -2147483648 to +2147483647 ➔ %ld ➔ 4 bytes

long int sal = 250000;

unsigned long int ➔ 0 to 4294967295 ➔ 4 ➔ %lu

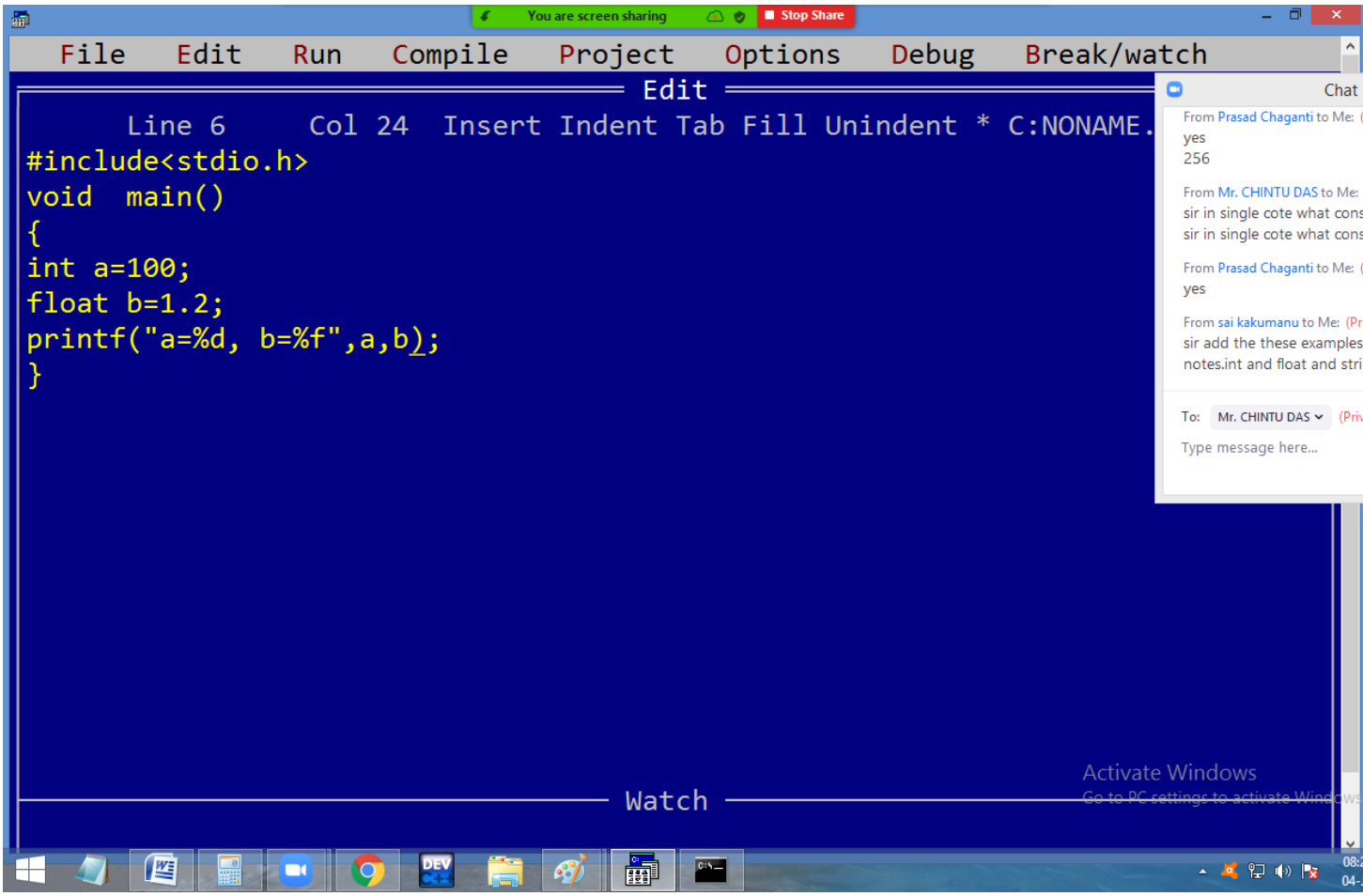
decimal numbers:

float ➔ $3.4*10^{-38}$ to $3.4*10^{+38}$ ➔ 4 bytes ➔%f

float height = 5.7; ➔ decimal number

long float/ double ➔ $1.7*10^{-308}$ to $1.7*10^{+308}$ ➔ 8 bytes ➔ %lf

long double ➔ $3.4*10^{-4932}$ to $1.1*10^{+4932}$ ➔ 10 bytes➔ %Lf




char ➔ 1 byte ➔ 256 characters

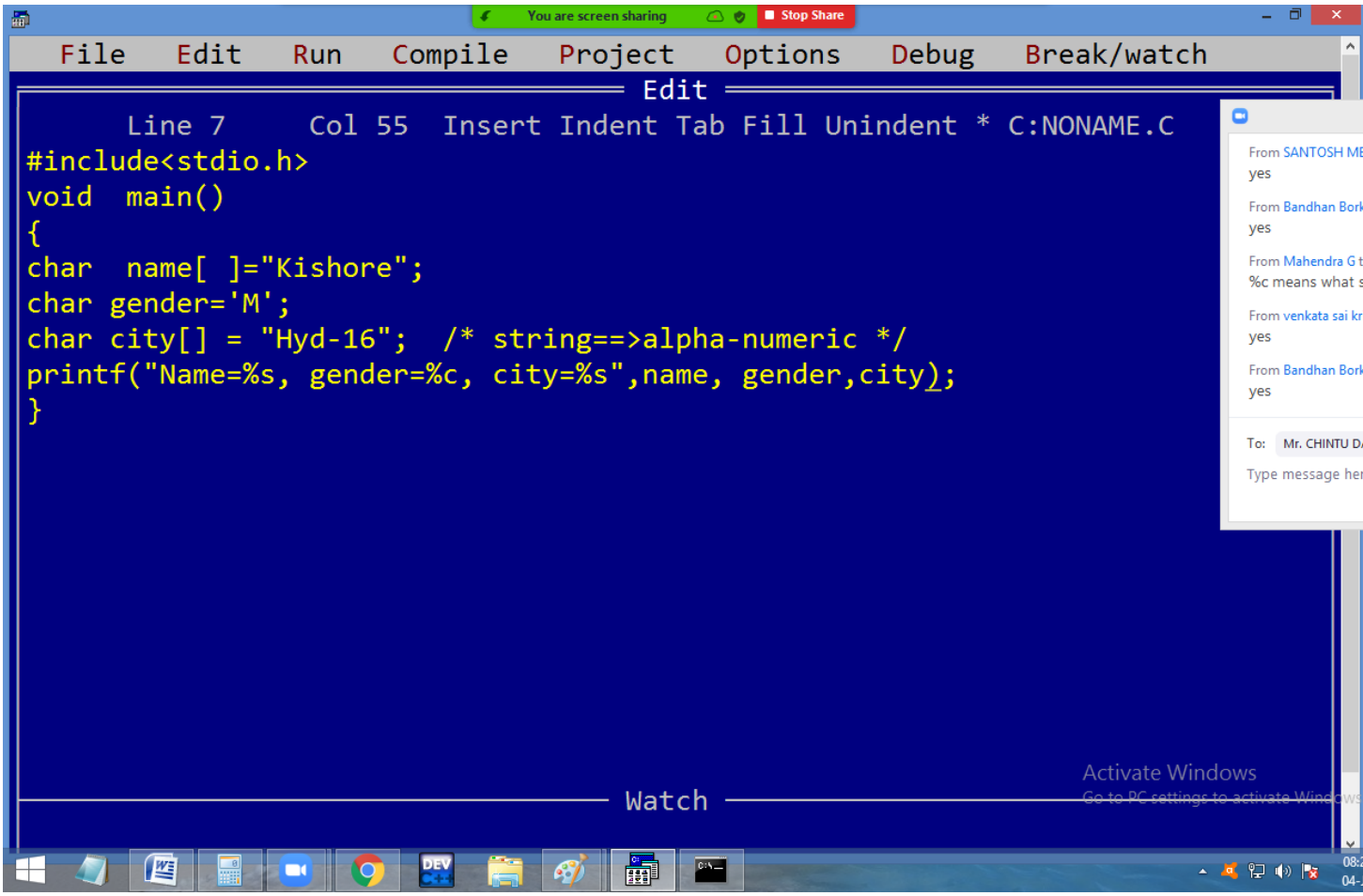
signed char ➔ -128 to +127 [ default ]

unsigned char ➔ 0 to 255

char name[8]=”Kishore”; ➔ string ➔ %s ➔ 8 bytes

char name[ ]=”Kishore”; ➔ string ➔ %s ➔ 8 bytes

char gender=’M’; ➔ char ➔ 1 byte ➔ %c




void – nothing

2. Derived data types: They have created from primitive data types.
   a. Array
   b. Pointer
   c. Function

3. User defined data types: Created by user using both primitive and derived data types.
   1. Structure

2. Union
3. Enum