Data Types

- **Three common data types used:**
  - **Integer** :: can store only whole numbers
    - Examples: 23, -56, 1, 0
  
  - **Floating-point** :: can store numbers with fractional values.
    - Examples: 3.14159, 5.0, -12345.345
  
  - **Character** :: can store a character
Data Types (contd.)

- **How are they stored in memory?**
  - **Integer ::**
    - 16 bits
    - 32 bits
  - **Float ::**
    - 32 bits
    - 64 bits
  - **Char ::**
    - 8 bits (ASCII code)
    - 16 bits (UNICODE, used in Java)

Actual number of bits vary from one computer to another.
Example 2: *Larger of two numbers*

```
START
READ X, Y
IS X>Y?
YES 
OUTPUT X 
STOP 
NO 
OUTPUT Y
STOP
```

Dept. of CSE, IIT KGP
Example 8: Computing $e^x$ series up to $N$ terms

\begin{verbatim}
START
READ X, N
TERM = 1
SUM = 0
COUNT = 1

SUM = SUM + TERM
TERM = TERM * X / COUNT
COUNT = COUNT + 1

IS COUNT > N?

YES
OUTPUT SUM
STOP

NO

END
\end{verbatim}