Logic Building Session
Day 1: MAR 2023

Session 1

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Date: 06/03/2023
Day 1:Intorduction to Programming

Topic:
- -Introduction to Programming concepts.
- -Algorithms
  - -Flow chart
  - -Pseudo code

Logic:collection of well defined activities to be performed in order to solve the real life problem.

Programming in phases and build the logic for the problem.

2 tasks:
1. Build and algorithm
   - -English language : Pseudo code
   - -Diagrams: pictorial diagrams : Flow charts
2. Build a program
   - - programming language

Algorithm

- **Definition-**
  - In programming, algorithm is a **set of well defined instructions in sequence** to solve the problem.
- Qualities of a good algorithm
  - Input and output should be **defined precisely.**
  - Each steps in algorithm should be **clear and unambiguous**.
  - Algorithm should be **most effective** among many different ways to solve a problem.
  - An algorithm **shouldn’t have computer code**. Instead, the algorithm should be written in such a way that, it can be used in similar programming languages.

EXAMPLE OF PSEUDOCODE

1. Start
2. Read quantity
3. Read price_per_kg
4. price ← quantity * price_per_kg
5. Print price
6. End

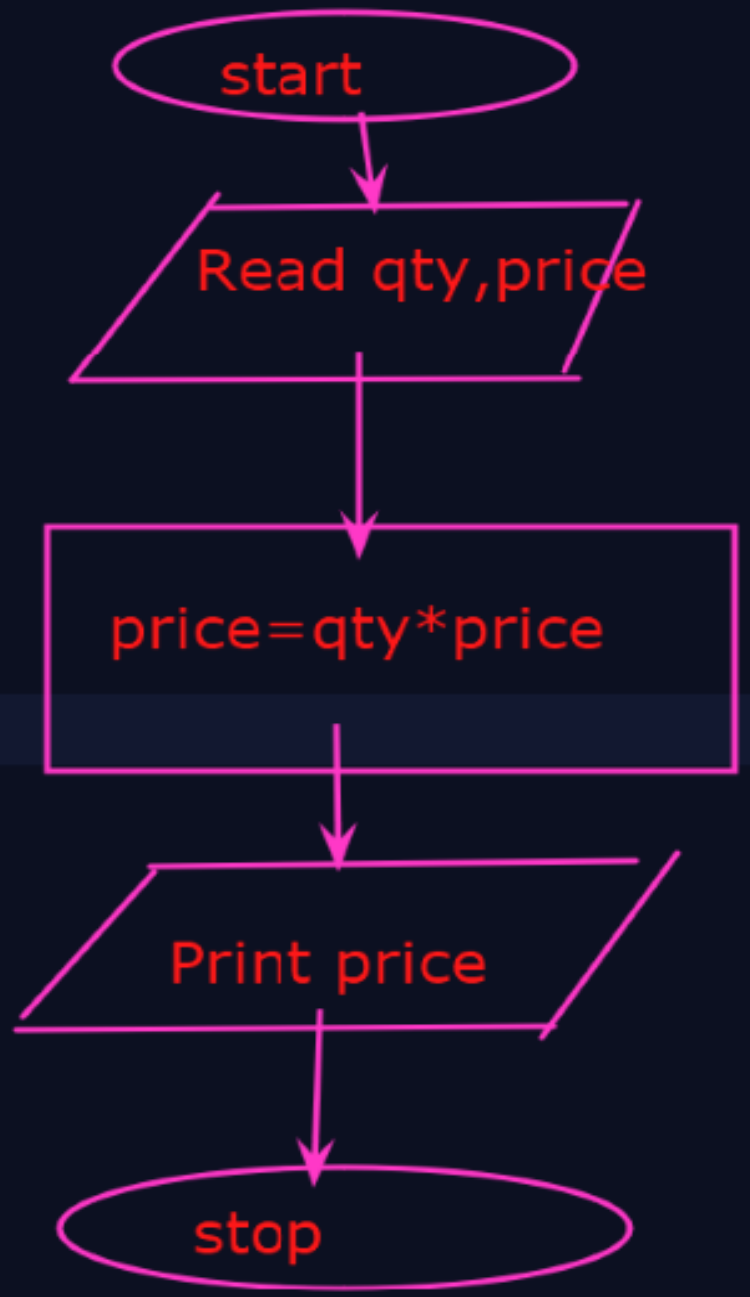
- programming language

Pseudo code:

Example:

1.Start
2.Read qty
3.Read price_per_kg
4.price <- qty * price_per_kg
5.Print price
6.End

Flowchart:



Symbol	Name	Function
	Start/end	An oval represents a start or end point
	Arrows	A line is a connector that shows relationships between the representative shapes
	Input/Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision

Pseudo code:

Example:

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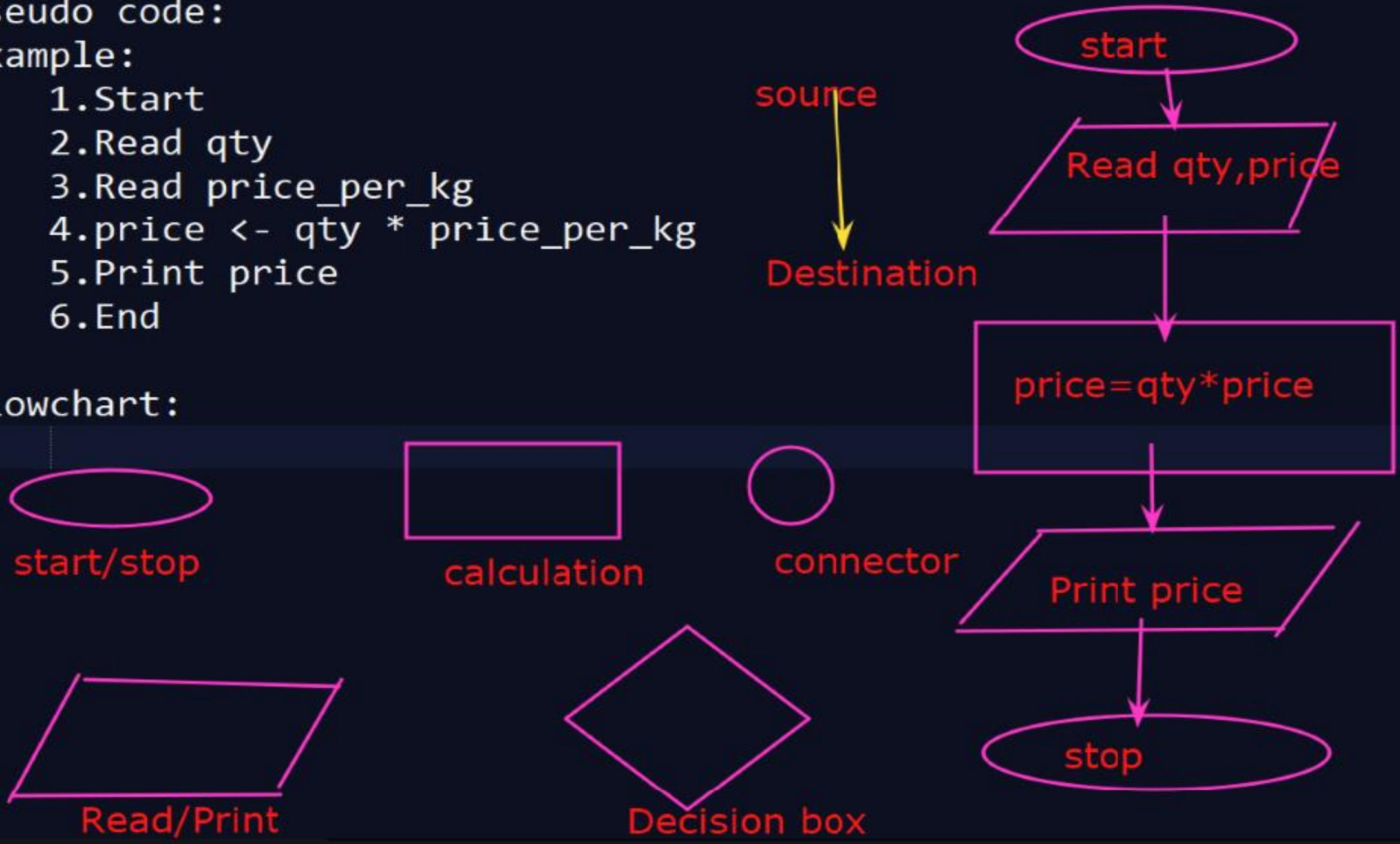
Flowchart:



Example:

1.Start
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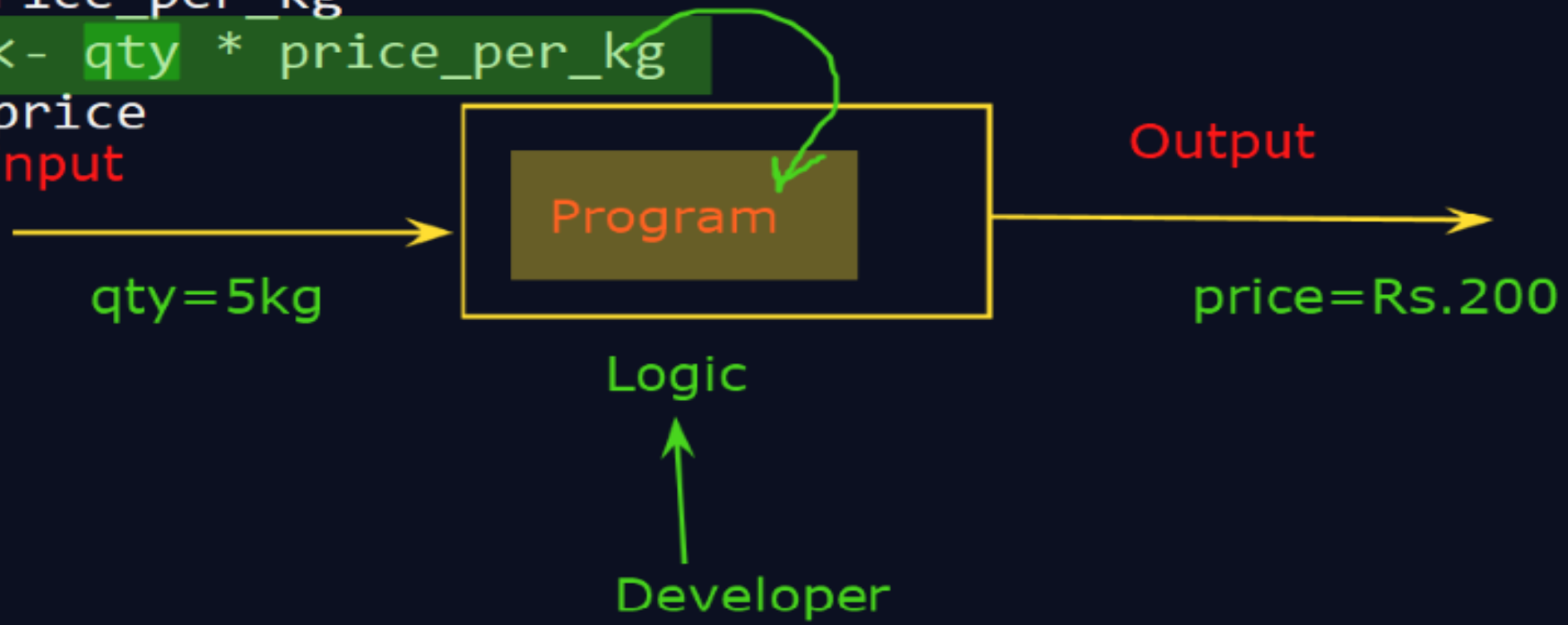
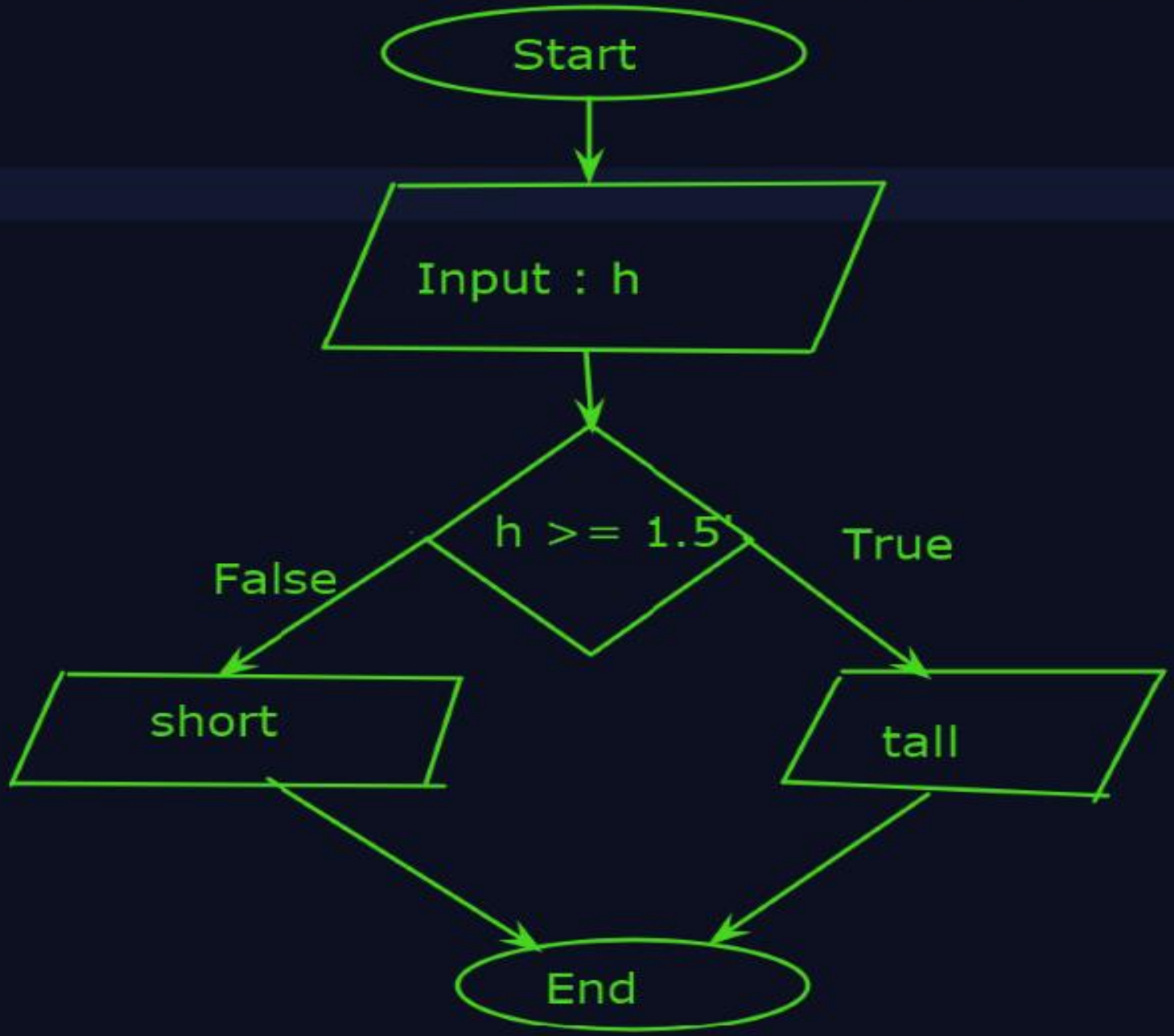
Flowchart:



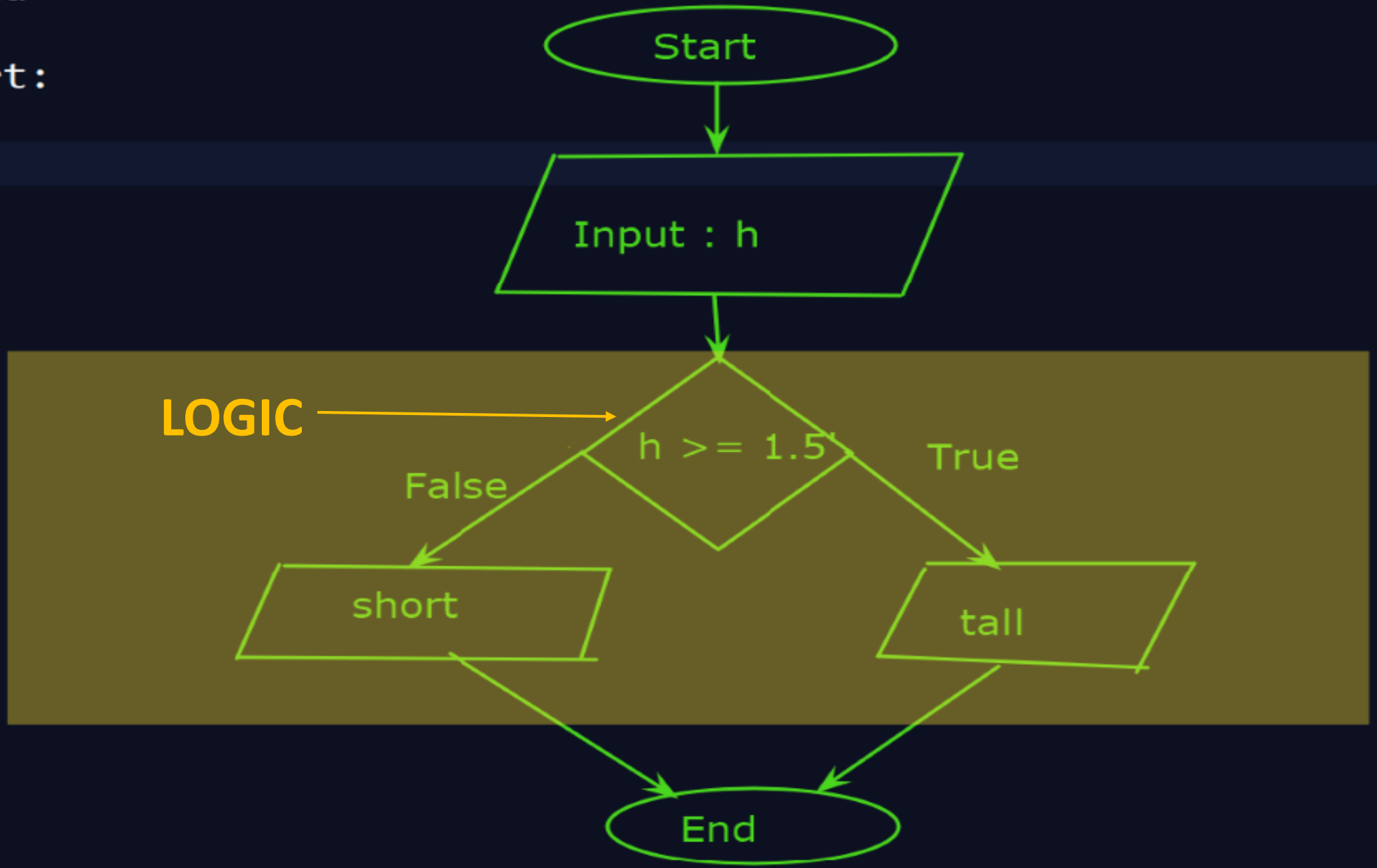
6. End

Flowchart:

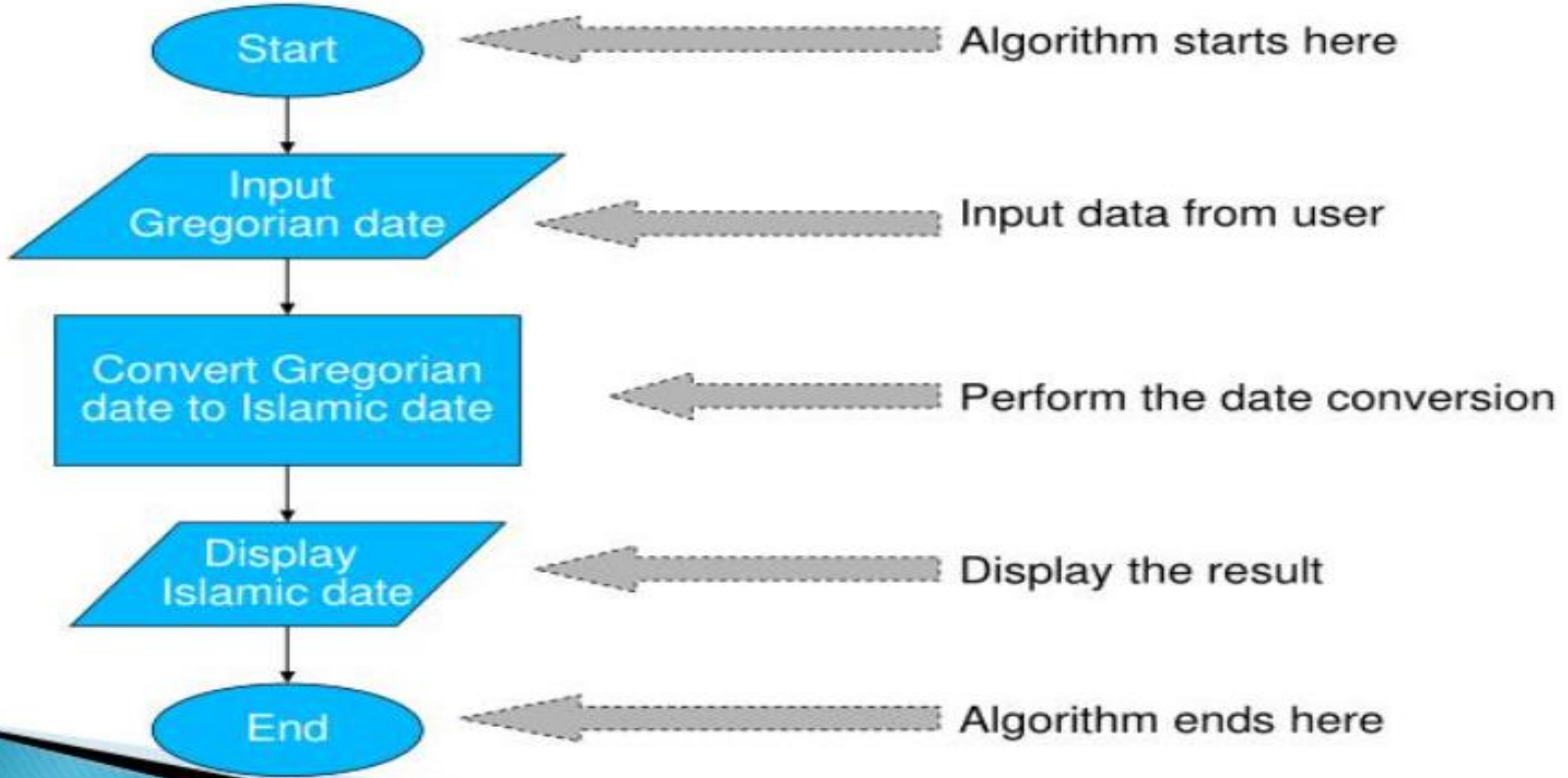


6. End

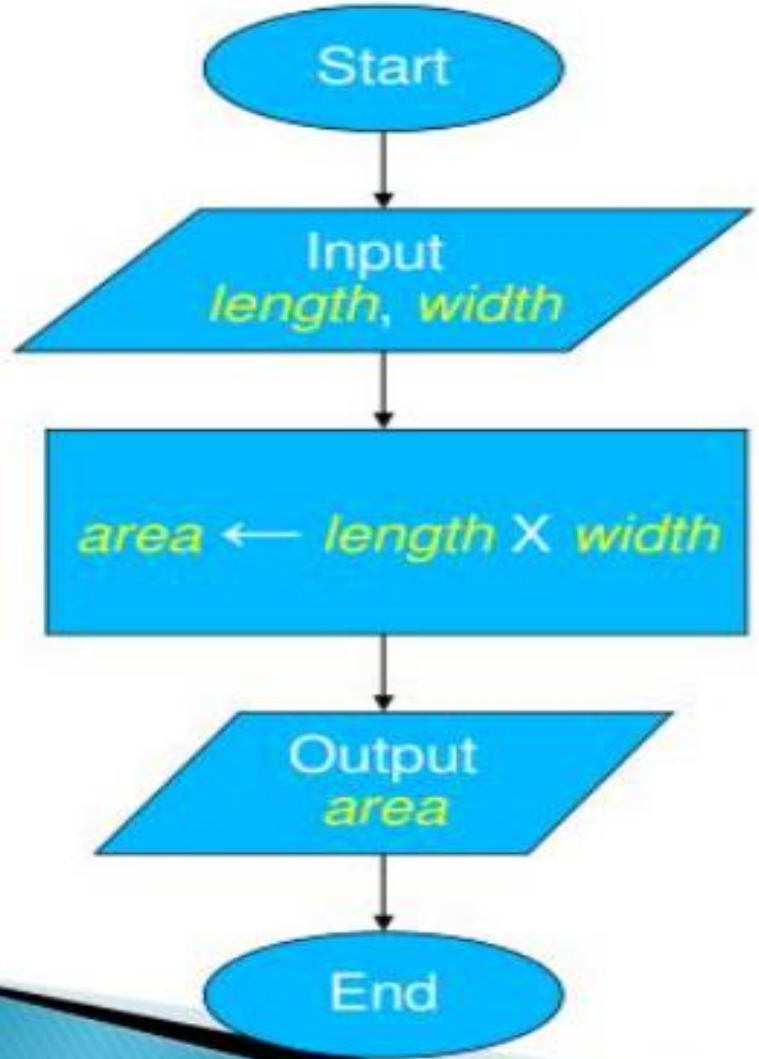
Flowchart:



FLOWCHART: EXAMPLE 1



FLOWCHART: EXAMPLE 2



- ***length***, ***width*** and ***area*** are referred to as variables.
- A variable is like a box in which a value can be stored

Flowchart:
Home work:
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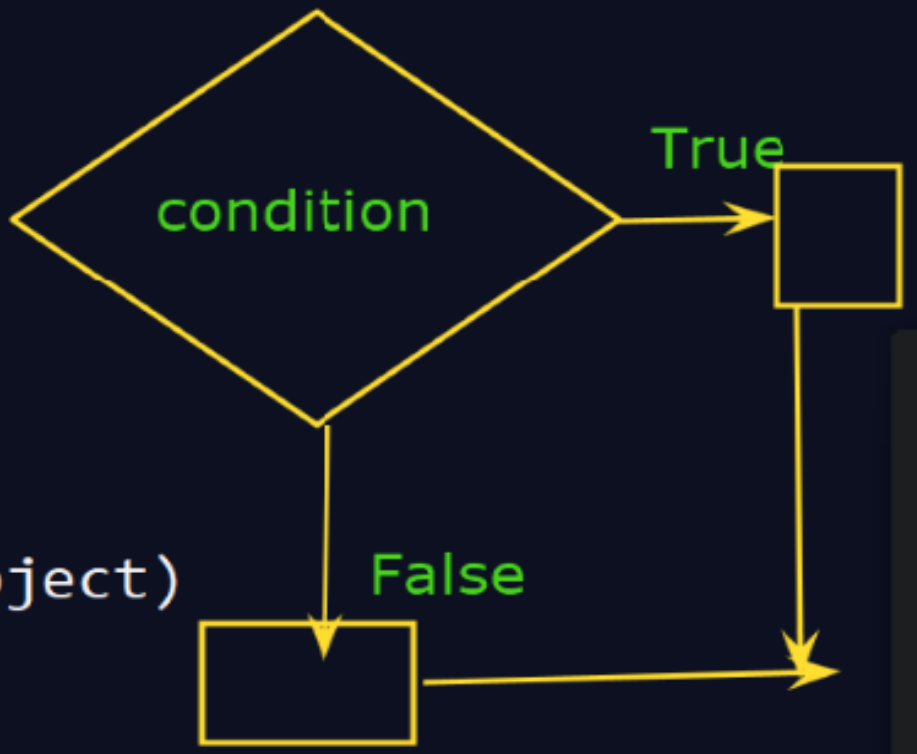
Q1. Controlling system for shopping.



Q2.
Student Marksheet

Input : 5 subjects (out of 100 for each subject)
Calculate the average
Calculate the percentage for each student.

Q3.Application to get the criteria for getting marry.

```
class FirstApp {

    public static void main(String args[]) {

    }
}
```

```
class FirstApp {

    public static void main(String args[]) {

    }
}
```

Run any program in Java:

---

1. Compile our program

```
javac filename.java
```

eg. `javac FirstApp.java`

2. Execute/Run our program

```
java filename
```

eg. `java FirstApp`

C.txt | new 5 | A.java | FirstApp.java

```
class FirstApp {

    public static void main(String args[]) {

    }
}
```

Keywords

Run any program in Java:

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eg. `javac FirstApp.java`

2. Execute/Run our program

```
java filename
```

eg. `java FirstApp`

AC.txt | new 5 | A.java | FirstApp.java

Mouse Select Text Draw Stamp Spotlight Eraser Format Undo Redo Clear Save

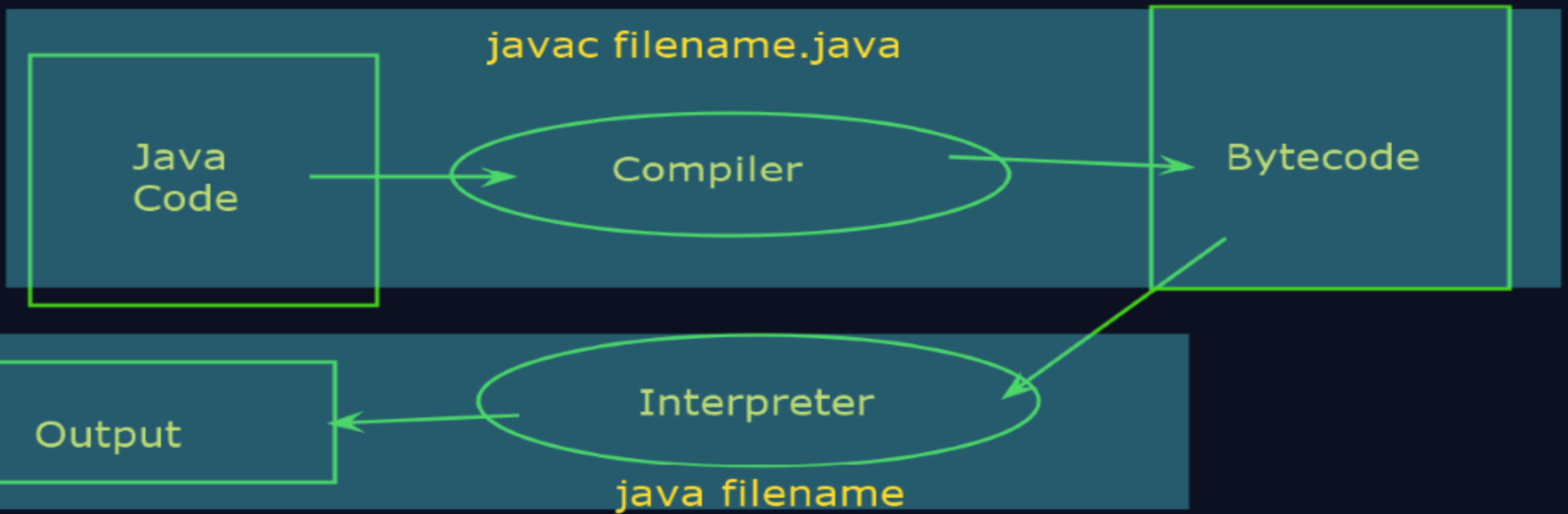
Who can see what you share here? Recording On

```java
class FirstApp {

    public static void main(String args[]) {

        System.out.println("Welcome to CDAC Mumbai!");

    }
}
```

Command Prompt

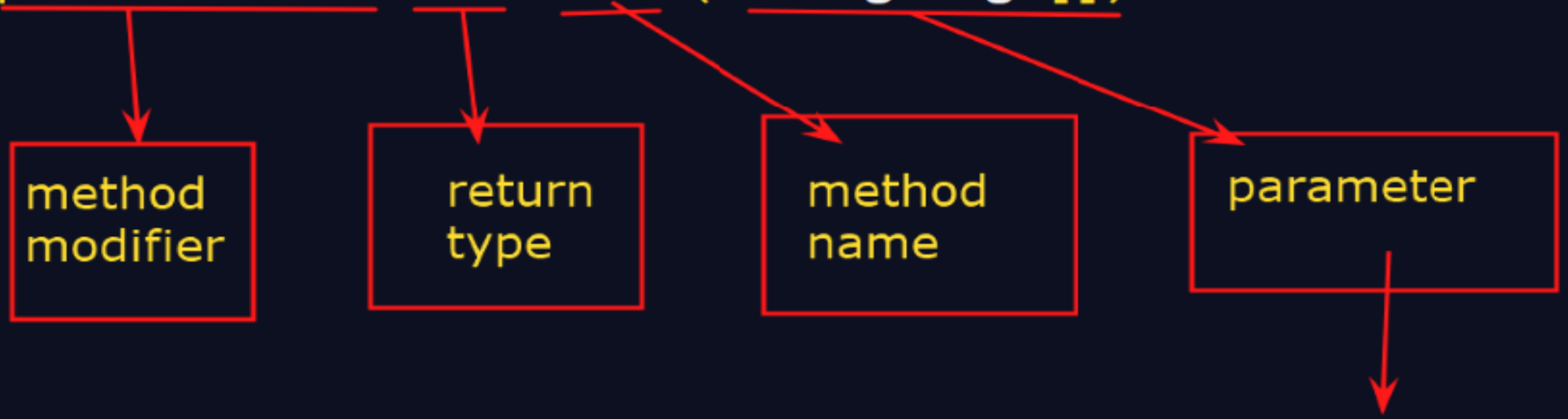
```
 Directory of D:\Test

06-03-2023  12:28    <DIR>          .
06-03-2023  12:41               127 FirstApp.java
               1 File(s)            127 bytes
               1 Dir(s)  320,573,751,296 bytes free

D:\Test>javac FirstApp.java

D:\Test>java FirstApp
Welcome to CDAC Mumbai!

D:\Test>
```

```java
class FirstApp {

    public static void main(String args[]) {

        System.out.println("Welcome to CDAC Mumbai!");
        System.out.println("Hi Girls!");
    }


}
```



Syntax: main() { }

```
public static void main(String args[])
```




```
System.out.println("Welcome to CDAC Mumbai!");
```