

WELCOME



MODULE LEADER

- **Bachelors in Computer Engineering, NEC, Bhaktapur (2008)**
- **Masters in Computer Engineering, NCIT, Lalitpur (2014)**
- **Former Tutor - New Horizons CLC, Lalitpur (2015)**
- **Former Lecturer - Mount Annapurna Campus, Pokhara (2017)**
- **Lecturer – Informatics College Pokhara, Pokhara (2018)**
- **Former Developer – BusSewa, Kathmandu (2013)**
- **Former Developer – VolcusSoft, Bhaktapur (2014)**
- **Former Java Developer – Smart Data Solutions, Lalitpur (2015)**
- **Founder – Foodmood, Pokhara (2017)**
- **Founder - Kandhani Information Technologies, Pokhara (2017)**



SUSHIL PAUDEL

MODULE LEADER

- **Bachelors in Computer Engineering, KEC, Lalitpur**
- **Masters in Computer Software Technology, Linnaeus University, Sweden**

- **Former Senior Lecturer – Islington College Kathmandu**
- **Former Developer – World Link Communication, Kathmandu**
- **Former Developer** in several **freelancing** projects
- **Specialization** in Android, AI and Cybersecurity
- **C.E.O – Informatics College Pokhara**



ABHINAV DAHAL

PROGRAMMING

Lecture 1

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TODAY'S TOPICS

- Class Rules
- Course Information
- Language
- Programming Language
- Introduction to Java
- Why Java?
- Features of Java
- Writing a first Java program

CLASS RULES

- Enter the classroom in time.
- Switch off your mobile phones or keep it in silent mode
- Don't use laptops during lecture.
- Maintain discipline inside the class.
- If you have any questions, raise your hand once I finish the slide.

COURSE INFORMATION

- To gain and demonstrate a sound knowledge of programming principles.
- Apply object-oriented concepts to solve programming problems.
- To be able to implement a (small) software system in Java.

COURSE SETUP

- 28 lectures.
- Each lecture will be followed by a tutorial and a workshop.
- Tutorial classes will be interactive classes where students must have gone through the lecture slide.
- Tutorial classes will prepare you for workshop.
- Bring your laptop in tutorial and workshop classes.

ASSESSMENTS

- Weekly assignments (10%)
- Coursework 1 (25%) – online submission, 12th week
- Coursework 2 (25%) – online submission, 24th week
- Practical Exam (40%) – Multiple choice test, 1.5 hours – 31st week

ASSIGNMENT RULES

- Individual tutorial & coursework.
- Missed deadlines will be dealt very severely.
- We take plagiarism very seriously so exchange ideas not solutions.
- Any student found copying part of a program or have someone else do it for them(friends, colleagues, relatives or hired personnel) and unable to defend on VIVA will fail the assignment.

TECHNOLOGIES USED

- Google Classroom (Notes, assignment, submission, etc.)
- Google Mail (Use Gmail to communicate with Lecturers)
- Google Meet (Online Class)

Make sure to use the college domain email address for all the used technologies

- USE: youremail@icp.edu.np
- NOT: youremail@xyz.com

LANGUAGE



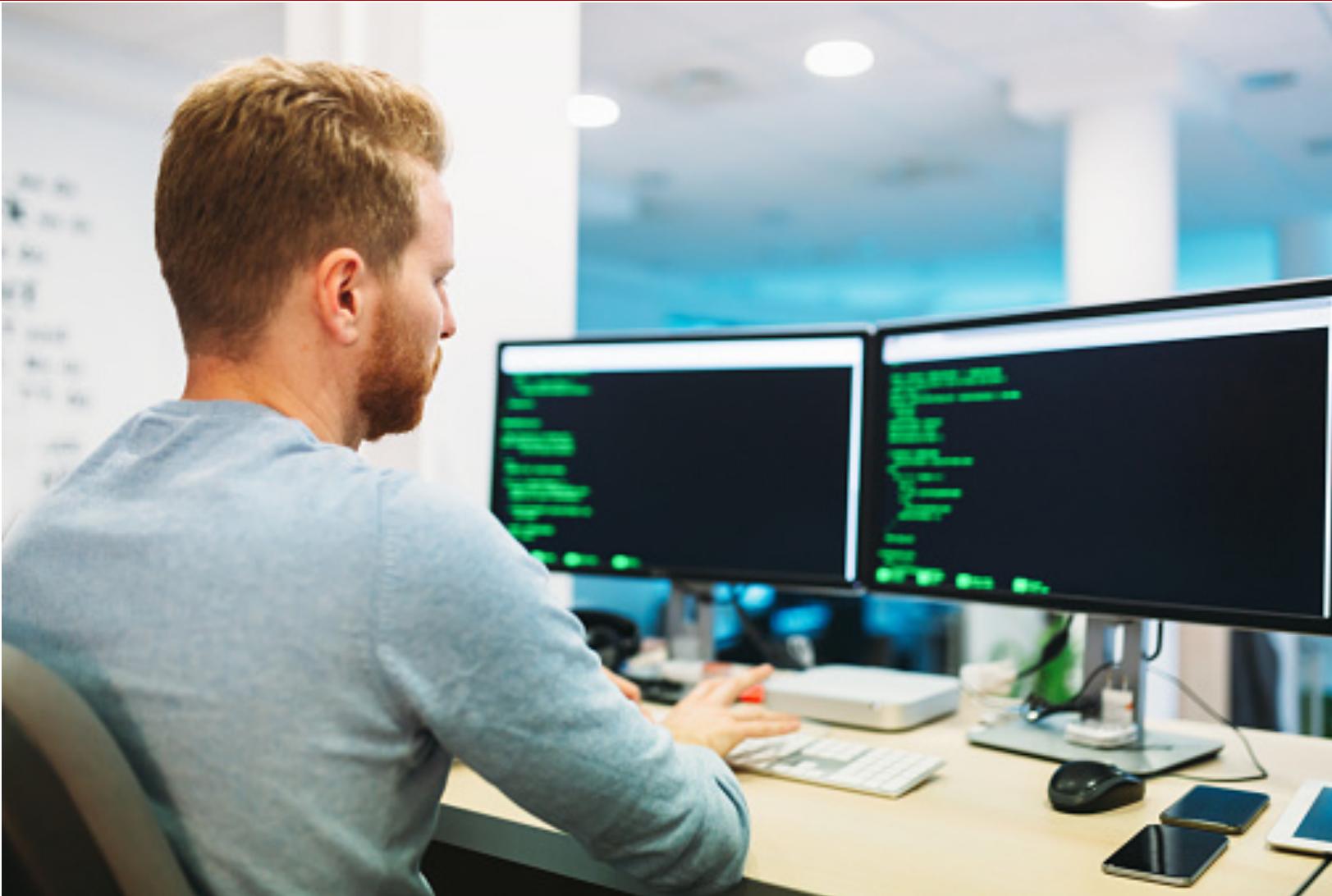
LANGUAGE

- Language has been our primary mean of communication.
- We humans communicate with different languages.
- But how the computers communicate..? Do they use English, Nepali, Hindi, French, etc., to communicate...? Absolutely a big **NO** .
- Your application is reacting to the mouse and keyboard or even the mic, it can read files from your disk storage and so on.
- But at the end, the machine understands nothing but bits, 1s, and 0s, the combination of which creates meaning.

PROGRAMMING LANGUAGE

- It is the communication between you and the computer.
- You tell the computer what to do using programming languages and the computer responds.
- There are many programming languages like C, C++, Java, Python, C#, etc.
- We will learn **Java** in this module.

PROGRAMMING LANGUAGE



PROGRAMMING LANGUAGE

What is
Coding?



SOFTWARE DEVELOPMENT

- It is a process to create computer software using one or more specific programming languages that provides functionality to address particular business or personal objectives.
- In other words, software development is a process with a set of activities that create computer software products, including their design, development, testing, and deployment.

SOFTWARE DESIGN

- If you wanted to build a house, it is unlikely that you would start by gathering the materials and cementing bricks, window frames and doors together.
- It is more likely that you would decide what you wanted in the house and draw up plans of how it would look and how it would be put together.
- In other words, you would first formulate your requirements and then produce a design; only then would you be in a position to start building.

SOFTWARE DESIGN

- We go through a similar process when developing software.
- We gather requirements, produce a design that meets those requirements and then write programs according to the design.

PROGRAMMING FIELDS

- Business
- Banking
- Education
- Marketing
- Healthcare
- Engineering Designs
- Communication
- Government
- Etc.

JAVA



INTRODUCTION

- Java is a popular programming language, created in 1995.
- It is owned by Oracle, and more than 3 billion devices run Java.
- It is used for:
 - Mobile applications (specially Android apps)
 - Desktop applications
 - Web applications
 - Games
 - And much, much more!

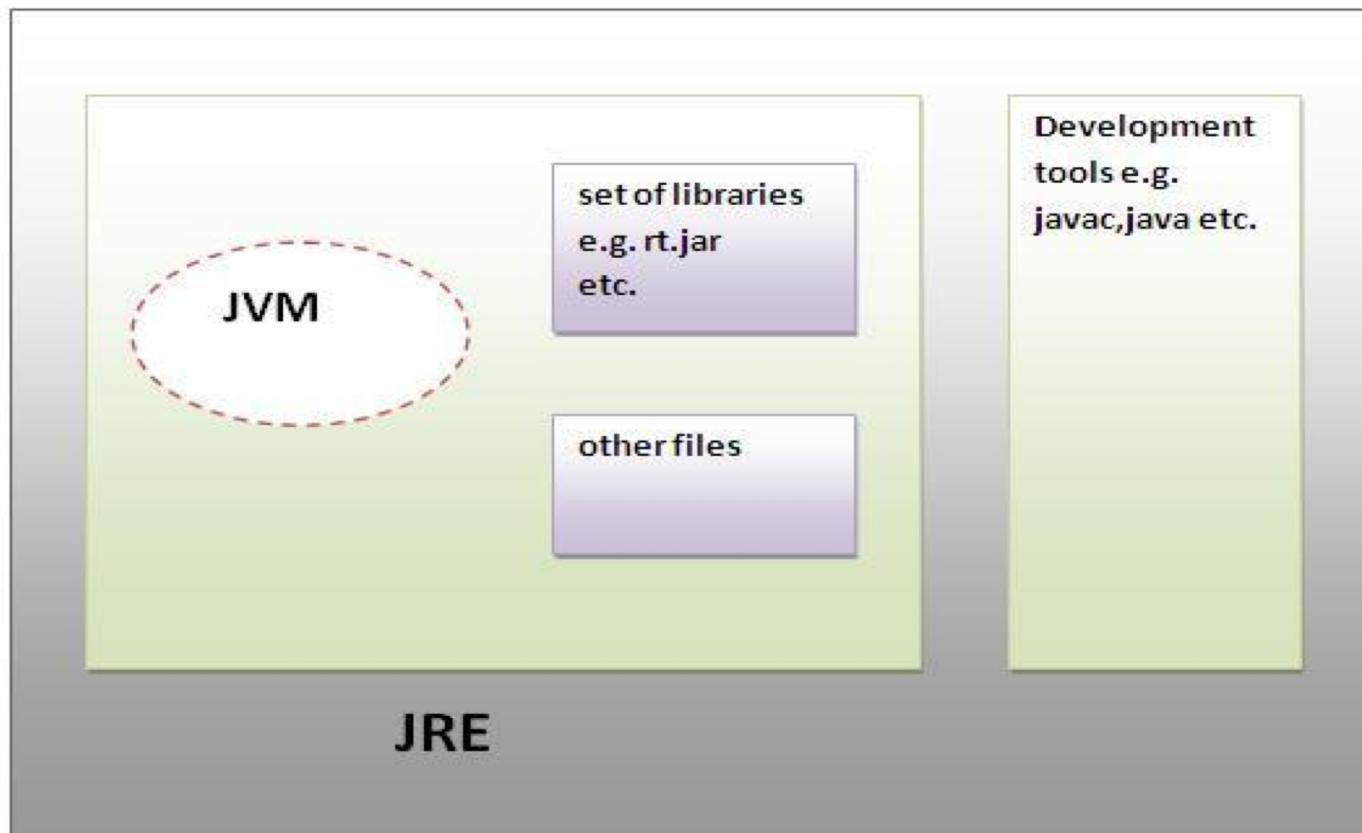
WHY JAVA?

- Java works on different platforms (Windows, Mac, Linux, etc.)
- It is one of the most popular programming language in the world
- It is easy to learn and simple to use
- It is open-source and free
- It is secure, fast and powerful
- It has a huge community support (tens of millions of developers)

PREREQUISITES

- JDK (Java Development Kit)
- Blue J
- Class path setting

JAVA TERMINOLOGY



JDK

FEATURES OF JAVA

- Object Oriented
- Robust
- Multithreaded
- Platform Independent
- High Performance
- Secure

POPULAR TEXT EDITOR FOR JAVA

- Notepad
- Notepad++
- **BlueJ** (*We will use this in the first semester*)
- Netbeans
- Eclipse
- **IntelliJ IDEA** (*We will use this in the second semester*)

FIRST JAVA PROGRAM

```
class MyFirstJavaProgram {  
    public static void main(String[] args) {  
        System.out.println("Hello World");  
    }  
}
```

Output

Hello World

ANOTHER PROGRAM

- WAP to add 3 numbers.

```
class Addition{  
  
    public static void main(String[] args) {  
        int a = 10;  
        int b = 20;  
        int c = 30;  
        int d = a + b + c;  
        System.out.println("Sum is: "+d);  
    }  
}
```

- Output

Sum is: 60

COMPANIES THAT ARE USING JAVA

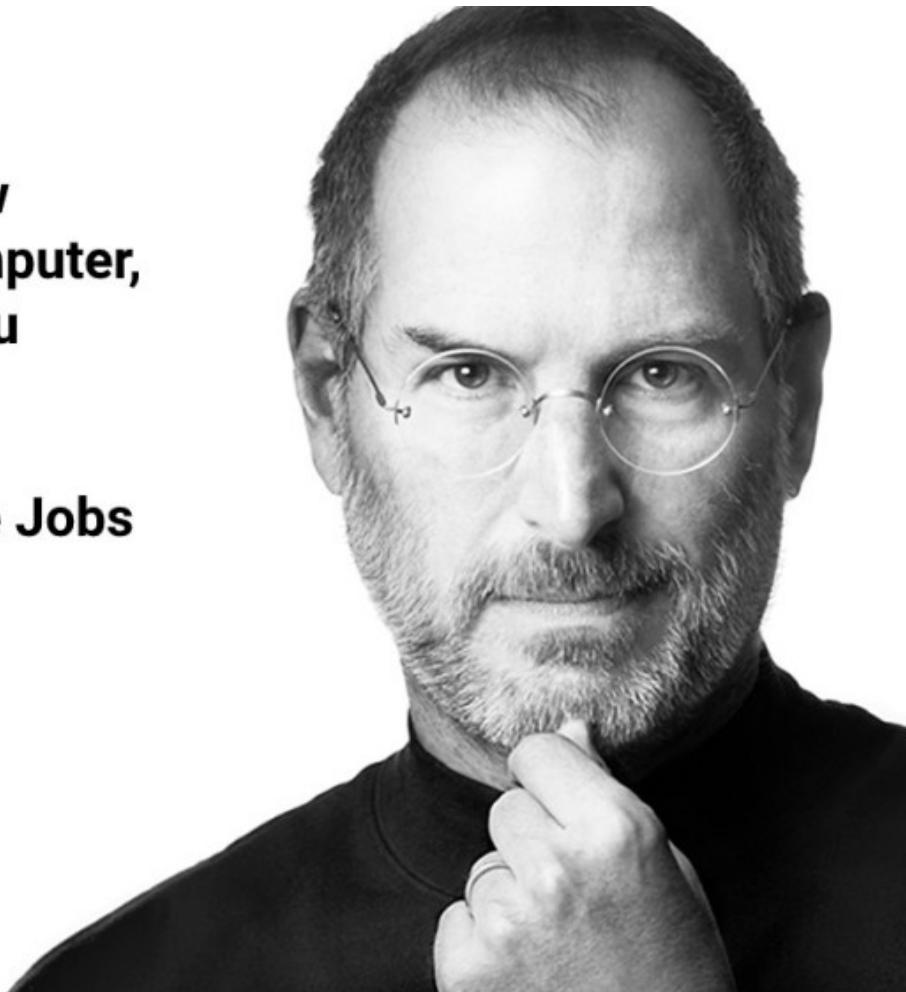
- Google
- Infosys
- TCS
- Flipkart
- Yahoo
- Amazon
- Philips
- eBay, etc.

Source: <https://www.quora.com/What-companies-use-java>

PROGRAMMING LANGUAGE

**"Everyone should know
how to program a computer,
because it teaches you
how to think."**

Steve Jobs



AS A PROGRAMMER

- It's like having a superpower that can solves problems.
- Programmer is rated as top 5 high paying job in most countries.
- You can be a freelancer for a side or full time job and work from anywhere.
- It trains your brain to solve problems and improve creativity.
- Bring Ideas to life.

DON'T BE LIKE THIS



erspaudel

PREPARE YOURSELF

- Download the following:
 - JDK (<https://www.oracle.com/java/technologies/javase-jdk15-downloads.html>)
 - BlueJ (<https://www.bluej.org>)
- Class path Setting (Refer any one link below). **We will learn in tutorial class.**
 - <https://www.edureka.co/blog/set-Java-classpath/>
 - <https://www.javatpoint.com/how-to-set-classpath-in-java>

END OF LECTURE 1

Any Questions?