Speed16 Academy

- **Vedic Maths & Python (Paperback, eBook, Video Course, Workbook & Online Interactive Training)**
- **www.Speed16.com**
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Introduction to Programming

Agenda

1. Types of Software
2. Introduction to Computer Programming
3. Uses of Computer Programs
4. Software Development Life Cycle (SDLC)
5. Why to Learn Programming Languages?
6. Steps in Learning Hindi / English / Python Language

Types of Software

- There are two types of software.
- **1)** System Software **2)** Application Software.
- **System Software:** System software is a computer software designed to provide services to other software.
- **Examples:** Operating System, Compiler, Assembler, BIOS etc.

Application Software:

- Application software is computer software designed for end users to satisfy their requirements. Application software engineers are going to develop Application Software with the help of various system software designed by system software engineers.
- **Examples:** Web browsers, spreadsheets, word processors, media player, Inventory Management Software, Ticket Reservation Software, Payroll Software, Microsoft Office, Internet Banking Software etc.

Introduction to Computer Programming:

- A computer is a programmable machine.
- A computer program is a sequence of instructions written using any computer programming language by a computer programmer to perform a specific task by the computer.
- There are more than 2000 computer programming languages. Some of them are C, C++, Java, Python, Scala etc.

Introduction to Computer Programming:

- Each and every programming languages are going to differ in syntaxes, features etc.
- Which programming language to choose to develop an application?
- It is chosen by considering requirements of end user, features of programming language, programmer's expertise etc.

Uses of Computer Programs:

- Set of computer programs are called computer software.
- A software may be system or application software.
- Can you imagine a computer without software?
- Nope…
- In computers everything is programs, everything is software.

Uses of Computer Programs:

- Let me know in which all fields computers are not used.
- It is difficult to answer.
- Let us list some of the fields where computers (in fact computer programs) are used.
- They are Business, Education, Banks, Home, Military, Health Care, Communication, Government Organizations, Engineering and the list goes on…

Software Development Life Cycle

- Software Development Life Cycle (SDLC) defines the phases in the building of software.
- **Phases of SDLC** are

1. **Requirement Gathering and Analysis:** All the relevant information required to develop software is gathered and analysis of the same is done.

2. **Design:** Defining overall system architecture

Software Development Life Cycle

3. **Implementation or coding:** Implement using suitable programming language

4. **Testing:** Your system should give legitimate output for all legitimate inputs. If not, find the cause and rectify them.

5. **Deployment:** Deploy the system at the end user side

6. **Maintenance:** Modify the system to meet changing requirements of end user.

Why Why Why?

Why to Learn Programming Languages?

Steps in Learning

Steps in Learning Hindi / English Language

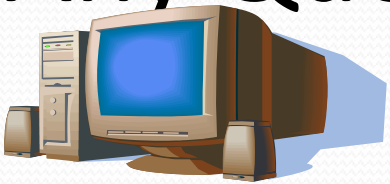
वर्णमाला -> (Alphabets)	शब्द -> (Words)	वाक्य -> (Sentences)	परिच्छेद (Paragraphs)

Steps in Learning Python language

Alphabets Digits Special Symbols	Constants Variables Keywords	Instructions	Program

The End..

Any Questions?



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Extra Reading

Problem Solving using Computers

- 1. **Analysis:** Understand (Define) the problem statement.
- 2. **Specification:** Specify what the solution must do.
- 3. **Generic Solution:** Specify problem solving approach, suitable data structures etc
- 4. **Verify:** Checking the correctness of the solution. Check whether the proposed solution really solves the problem.

Steps

- 5. **Implementation:** Implement the algorithm using any suitable programming language
- 6. **Testing:** Test your program. Your program should give legitimate output for all legitimate inputs. If not, find the cause and rectify them.
- 7. **Deployment:** Deploy at the end user side
- 8. **Maintain:** Modify the program to meet changing requirements.

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