CASE Tools

What Is CASE Tools

1. CASE: Stands for Computer Aided Software Engineering.
2. Used to support software process activities.
3. Provides information about the software being developed
4. Currently used in every phase/workflow of life cycle

Reasons for Using CASE Tools

1. Improved productivity.

2. Better documentation.

3. Reduced lifetime maintenance.

4. Improved accuracy.

5. Opportunity to non-programmers.

6. Enforce discipline.

7. Help communication between team members.

Layers Of CASE Tools

Upper CASE Tools

Lower CASE Tools

Integrated CASE Tools

Upper CASE Tools

1. Support analysis and design phases of SDLC.

2. Can be further divided as:
   - Diagramming Tools
   - Report Generator
   - Analysis Tool

Lower CASE Tools

1. Support implementation and maintenance phases of SDLC.

2. Focuses on
   - Central Repository
   - Code Generator
   - Configuration Management

3. Hand-coding is still necessary.

Integrated CASE Tools

1. Support activities that occur across multiple phases of SDLC.

2. Facilitate
   - Analysis
   - Design
   - Code
   - Management

Three Perspective Of CASE Tools

1. Functional perspective
   - Tools are classified according to their specific function.

2. Process perspective
   - Tools are classified according to process activities that are supported.

3. Integration perspective
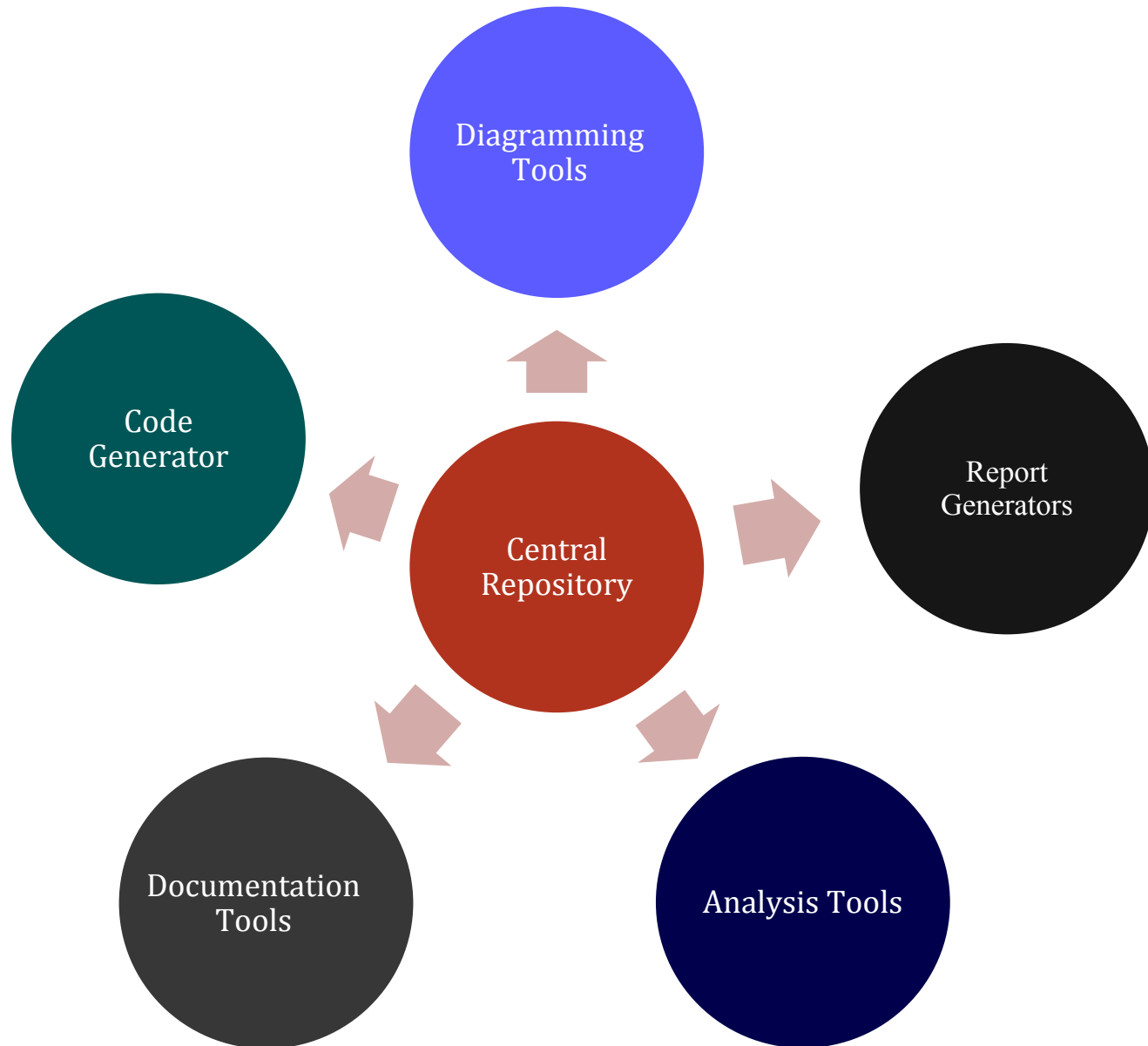   - Tools are classified according to their organisation into integrated units.

Categories Of CASE Tools

Tools

Workbench

Environment

CASE Environment

Some Other Examples of Case Tools

1. Project planning tools

   a. for cost & effort estimation, & project scheduling

2. Risk analysis tools

3. Requirements tracing tools

4. Metrics and management tools

5. Software configuration management tools

6. Prototyping & simulation tools

7. Testing tools

8. Reengineering tools

Problems with CASE Tools

1. Limitations in flexibility of documentation.

2. Major danger: completeness and syntactic correctness does NOT mean compliance with requirements

3. Costs associated with the use of the tool
   - Purchase price
   - Training

UML CASE Tools

1. Unified Modeling Language (UML) is a language for specifying, constructing, visualizing, and documenting the artifacts of a software-intensive system.

2. Things to remember while choosing UML tools:
   - Tool should support most of the diagrams.
   - Easy to use, reliable and scalable.
   - Should be open-source or having low cost.

Some Open-Source UML Case Tools

1. Umbrello UML Modeller

2. Umple (By university of ottawa)

3. UML Designer

4. Modelio

5. JetUML

6. Eclipse UML Tools

7. Dia

8. ArgoUML