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| SDLC Models | Waterfall Model | Iterative Model | Spiral Model | V-Model | Big Bang Model | Agile Model |
| Concept | It is a Linear Sequential Model. Each phase must be completed before the next phase can begin and there is no overlapping in the phases. | Iterative process starts with a simple implementation of a subset of the software requirements and iteratively enhances the evolving versions until the full system is implemented. | Spiral model is a combination of iterative development process model and sequential linear development model i.e. the waterfall model with a very high emphasis on risk analysis. | It is a Verification and Validation Model. Under the V-Model, the corresponding testing phase of the development phase is planned in parallel. | The Big Bang model is an SDLC model where we do not follow any specific process. | Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. |
| Advantages | 1. Simple and easy to understand.  2. Phases are processed and completed one at a time.  3. Works well for smaller projects  4. Clearly defined stages. | 1.Parallel development can be planned.  2.Less costly to change the scope/requirements.  3.Testing and debugging during smaller iteration is easy. | 1.Changing requirements can be accommodated.  2.Allows extensive use of prototypes.  3.Requirements can be captured more accurately.  4.Users see the system early. | 1. Phases are completed one at a time.  2.Used in small project.  3.Simple and easy to understand and use.  4.Easy to manage due to the rigidity of the model.. | 1.This is a very simple model.  2.Little or no planning required.  3.Easy to manage.  4.Very few resources required  5.Gives flexibility to developers | 1. It Is a very realistic approach to software development.  2. Resource requirements are minimum.  3. Little or no planning required.  4.Easy to manage. |
| Disadvantages | 1.High amounts of risk and uncertainty.  2.Not a good model for complex and object-oriented projects. | 1.More resources may be required..  2.Not suitable for smaller projects.  3.Management complexity is more. | 1. Not suitable for small or low risk projects and could be expensive for small projects.  2.Process is complex | 1. High risk and uncertainty.  2. Not a good model for complex projects. | 1.Very High risk and uncertainty.  2.Not a good model for complex and object-oriented projects. | 1.Not suitable for handling complex dependencies.  2.More risk of sustainability, maintainability and extensibility. |
| Application | The project is short.  Requirements are very well documented, clear and fixed. | Requirements of the complete system are clearly defined and understood. | When there is a budget constraint and risk evaluation is important. | Requirements are well defined, clearly documented and fixed  The project is short. | Small projects with one or two developers working together.  Also useful for academic or practice projects.. | Adaptive software development, crystal methods, SCRUM, Extreme Programming(XP),Dynamic systems development |