Module – 4(**Defect Tracking)**

1.What is priority

something that is very [important](https://dictionary.cambridge.org/dictionary/english/important) and must be [dealt](https://dictionary.cambridge.org/dictionary/english/dealt) with before other things:

The [management](https://dictionary.cambridge.org/dictionary/english/management) did not [seem](https://dictionary.cambridge.org/dictionary/english/seem) to [consider](https://dictionary.cambridge.org/dictionary/english/consider) [office](https://dictionary.cambridge.org/dictionary/english/office) [safety](https://dictionary.cambridge.org/dictionary/english/safety) a priority.

My first/[top](https://dictionary.cambridge.org/dictionary/english/top) priority is to [find](https://dictionary.cambridge.org/dictionary/english/find) [somewhere](https://dictionary.cambridge.org/dictionary/english/somewhere) to [live](https://dictionary.cambridge.org/dictionary/english/live).

You have to [learn](https://dictionary.cambridge.org/dictionary/english/learn) to get [your](https://dictionary.cambridge.org/dictionary/english/your) priorities [right](https://dictionary.cambridge.org/dictionary/english/right)/[straight](https://dictionary.cambridge.org/dictionary/english/straight) (= [decide](https://dictionary.cambridge.org/dictionary/english/decide) which are the most [important](https://dictionary.cambridge.org/dictionary/english/important) [jobs](https://dictionary.cambridge.org/dictionary/english/job) or [problems](https://dictionary.cambridge.org/dictionary/english/problem) and [deal](https://dictionary.cambridge.org/dictionary/english/deal) with them first).

Repairing the [plumbing](https://dictionary.cambridge.org/dictionary/english/plumbing) is a priority [task](https://dictionary.cambridge.org/dictionary/english/task) (= more [important](https://dictionary.cambridge.org/dictionary/english/important) than other [jobs](https://dictionary.cambridge.org/dictionary/english/job)).

Banks [normally](https://dictionary.cambridge.org/dictionary/english/normally) give priority to [large](https://dictionary.cambridge.org/dictionary/english/large) [businesses](https://dictionary.cambridge.org/dictionary/english/business) when [deciding](https://dictionary.cambridge.org/dictionary/english/deciding) on [loans](https://dictionary.cambridge.org/dictionary/english/loan) (= they [deal](https://dictionary.cambridge.org/dictionary/english/deal) with them first because they [consider](https://dictionary.cambridge.org/dictionary/english/consider) them most [important](https://dictionary.cambridge.org/dictionary/english/important)).

Official [business](https://dictionary.cambridge.org/dictionary/english/business) [requirements](https://dictionary.cambridge.org/dictionary/english/requirement) [obviously](https://dictionary.cambridge.org/dictionary/english/obviously) take/have priority over [personal](https://dictionary.cambridge.org/dictionary/english/personal) [requests](https://dictionary.cambridge.org/dictionary/english/request) (= [official](https://dictionary.cambridge.org/dictionary/english/official) [business](https://dictionary.cambridge.org/dictionary/english/business) [matters](https://dictionary.cambridge.org/dictionary/english/matter) will be [dealt](https://dictionary.cambridge.org/dictionary/english/dealt) with first).

 More examples

We need to [establish](https://dictionary.cambridge.org/dictionary/english/establish) a new set of priorities.

You need to [identify](https://dictionary.cambridge.org/dictionary/english/identify) [your](https://dictionary.cambridge.org/dictionary/english/your) priorities.

a [low](https://dictionary.cambridge.org/dictionary/english/low) priority [task](https://dictionary.cambridge.org/dictionary/english/task)

If [agriculture](https://dictionary.cambridge.org/dictionary/english/agriculture) were given priority, the [country](https://dictionary.cambridge.org/dictionary/english/country) would [easily](https://dictionary.cambridge.org/dictionary/english/easily) be [able](https://dictionary.cambridge.org/dictionary/english/able) to [feed](https://dictionary.cambridge.org/dictionary/english/feed) it self

The [establishment](https://dictionary.cambridge.org/dictionary/english/establishment) of new [areas](https://dictionary.cambridge.org/dictionary/english/area) of [employment](https://dictionary.cambridge.org/dictionary/english/employment) is a priority.

The [company](https://dictionary.cambridge.org/dictionary/english/company) [focuses](https://dictionary.cambridge.org/dictionary/english/focuses) on [business](https://dictionary.cambridge.org/dictionary/english/business) priorities that make a [difference](https://dictionary.cambridge.org/dictionary/english/difference): [intense](https://dictionary.cambridge.org/dictionary/english/intense) [commitment](https://dictionary.cambridge.org/dictionary/english/commitment) to [customer](https://dictionary.cambridge.org/dictionary/english/customer) [service](https://dictionary.cambridge.org/dictionary/english/service) and [maintaining](https://dictionary.cambridge.org/dictionary/english/maintain) [low](https://dictionary.cambridge.org/dictionary/english/low) [costs](https://dictionary.cambridge.org/dictionary/english/cost)*.*

[strategic](https://dictionary.cambridge.org/dictionary/english/strategic)/[corporate](https://dictionary.cambridge.org/dictionary/english/corporate) priorities

[spending](https://dictionary.cambridge.org/dictionary/english/spending)/[financial](https://dictionary.cambridge.org/dictionary/english/finance)/[investment](https://dictionary.cambridge.org/dictionary/english/investment) priorities

a top/number one/first priority For the [Internal](https://dictionary.cambridge.org/dictionary/english/internal-revenue-service) [Revenue](https://dictionary.cambridge.org/dictionary/english/internal-revenue-service) [Service](https://dictionary.cambridge.org/dictionary/english/internal-revenue-service), [protection](https://dictionary.cambridge.org/dictionary/english/protection) of [taxpayers](https://dictionary.cambridge.org/dictionary/english/taxpayer)' [data](https://dictionary.cambridge.org/dictionary/english/data) is a [top](https://dictionary.cambridge.org/dictionary/english/top) priority.

a high/clear priority Regulators, both [globally](https://dictionary.cambridge.org/dictionary/english/global) and [locally](https://dictionary.cambridge.org/dictionary/english/local), need to [define](https://dictionary.cambridge.org/dictionary/english/define) [clearer](https://dictionary.cambridge.org/dictionary/english/clearer) priorities.

sb's priority is to do sth At the [moment](https://dictionary.cambridge.org/dictionary/english/moment), [our](https://dictionary.cambridge.org/dictionary/english/our) priority is to [recruit](https://dictionary.cambridge.org/dictionary/english/recruit) high-calibre [employees](https://dictionary.cambridge.org/dictionary/english/employee) to [supplement](https://dictionary.cambridge.org/dictionary/english/supplement) the [existing](https://dictionary.cambridge.org/dictionary/english/existing) [staff](https://dictionary.cambridge.org/dictionary/english/staff).

make sth a priority [Union](https://dictionary.cambridge.org/dictionary/english/european-union) [representatives](https://dictionary.cambridge.org/dictionary/english/congressman) are [anxious](https://dictionary.cambridge.org/dictionary/english/anxious) to make [healthcare](https://dictionary.cambridge.org/dictionary/english/healthcare) [benefits](https://dictionary.cambridge.org/dictionary/english/benefit) a priority for [their](https://dictionary.cambridge.org/dictionary/english/their) [workers](https://dictionary.cambridge.org/dictionary/english/worker) over the next few [months](https://dictionary.cambridge.org/dictionary/english/month).

identify/set/establish priorities The bank's [board](https://dictionary.cambridge.org/dictionary/english/board) of [directors](https://dictionary.cambridge.org/dictionary/english/director) was [criticized](https://dictionary.cambridge.org/dictionary/english/criticize) for [failing](https://dictionary.cambridge.org/dictionary/english/fail) to set priorities.

a list/set of priorities Tackling the [issue](https://dictionary.cambridge.org/dictionary/english/issue) of [World](https://dictionary.cambridge.org/dictionary/english/new-world) [debt](https://dictionary.cambridge.org/dictionary/english/debt) [relief](https://dictionary.cambridge.org/dictionary/english/relief) will be high on the [list](https://dictionary.cambridge.org/dictionary/english/list) of priorities at next week's [summit](https://dictionary.cambridge.org/dictionary/english/summit).

the [state](https://dictionary.cambridge.org/dictionary/english/state) or [fact](https://dictionary.cambridge.org/dictionary/english/fact) of being the most [important](https://dictionary.cambridge.org/dictionary/english/important) [job](https://dictionary.cambridge.org/dictionary/english/job) or [aim](https://dictionary.cambridge.org/dictionary/english/aim), [compared](https://dictionary.cambridge.org/dictionary/english/compare) to other [jobs](https://dictionary.cambridge.org/dictionary/english/job) or [aims](https://dictionary.cambridge.org/dictionary/english/aim):

high/low/top priority [Euro](https://dictionary.cambridge.org/dictionary/english/euro) [MPs](https://dictionary.cambridge.org/dictionary/english/mp) are now [demanding](https://dictionary.cambridge.org/dictionary/english/demanding) [higher](https://dictionary.cambridge.org/dictionary/english/higher) priority for [climate](https://dictionary.cambridge.org/dictionary/english/climate) [change](https://dictionary.cambridge.org/dictionary/english/change) [policy](https://dictionary.cambridge.org/dictionary/english/policy).

take/have/get priority (over sth) Under [certain](https://dictionary.cambridge.org/dictionary/english/certain) [circumstances](https://dictionary.cambridge.org/dictionary/english/circumstance), there may be [special](https://dictionary.cambridge.org/dictionary/english/special) [requirements](https://dictionary.cambridge.org/dictionary/english/requirement) that take priority over all [others](https://dictionary.cambridge.org/dictionary/english/others).

give sth priority/give priority to sth Both [countries](https://dictionary.cambridge.org/dictionary/english/country) have given priority to [corporate](https://dictionary.cambridge.org/dictionary/english/corporate) [investment](https://dictionary.cambridge.org/dictionary/english/investment).

a priority area/sector Products [across](https://dictionary.cambridge.org/dictionary/english/across) twelve priority [sectors](https://dictionary.cambridge.org/dictionary/english/sector) are now being [traded](https://dictionary.cambridge.org/dictionary/english/trade) [freely](https://dictionary.cambridge.org/dictionary/english/freely) between [member](https://dictionary.cambridge.org/dictionary/english/member) [states](https://dictionary.cambridge.org/dictionary/english/state).

the fact or condition of being prior; precedence in time, order, importance, etc. 2. a. a right to precedence over others in obtaining, buying, or doing something.

2.What is severity

the quality or state of being [severe](https://www.merriam-webster.com/dictionary/severe) : the condition of being very bad, serious, unpleasant, or harsh

the severity of the climate

the severity of the punishment

Medication can help shorten the illness and lessen its severity.

To make all coastal residents more aware of the severity of the cyclone hazard, and to increase faith and trust in evacuation orders, the emergency personnel must educate them about the benefits of taking refuge in public shelters prior to an approaching cyclone. Bimal Kanti Paul

A dog, like a human, is prone to two broadly defined types of bone fracture—open and closed. Within each category, breaks of varying severity may occur. Tom Ewing

Bug Severity or Defect Severity in testing is a degree of impact a bug or a[Defect](https://www.guru99.com/defect-management-process.html)has on the software application under test. A higher effect of bug/defect on system functionality will lead to a higher severity level. A[Quality Assurance](https://www.guru99.com/all-about-quality-assurance.html)engineer usually determines the severity level of a bug/defect.

3.Bug categories are

Software development is a long and ongoing process for a developer. Merely writing the code and believing that it would work is not the way developers intend on creating reliable software. The software development life cycle includes planning, analyzing, designing, developing, testing, implementing, and maintaining the software.

Even though every action in the process is equally significant, developers spend the most time in the testing phase. Presently, due to the rising competition in the industry, developers have to create the software in the least possible time. With that in mind, they try to become as efficient as possible so that they can stay ahead of others. However, there is one part of the [software development process](https://www.thinksys.com/software-development-services/) which should not be done in a rush which is software testing.

While writing a software code, the developer could make a mistake that could hamper the functioning of a certain feature in the software. This mistake or error is the bug that will cause the software to malfunction. The reason why such errors are called a bug is because of an issue faced by [Grace Murray Hopper](https://en.wikipedia.org/wiki/Grace_Hopper), a renowned personality in computing history. While working on an electromechanical computer, he faced an issue that affected the performance of the computer. While looking for the issue, he found a moth stuck inside the computer. Since then, every error in the software code or a computer system is called a bug.

Different Types of Bugs in Software Testing:

No matter the software type, software bugs are categorized into three types; Nature, Priority, and Severity. Classification of bugs in software testing is done on the basis of their nature and impact on the user experience.

Software Bugs by Nature:  
Software bugs have different natures where they affect the overall functioning of the software differently. Though there are dozens of such bugs existing currently, you may not face them frequently. With that in mind, here are the most common software bugs categorized by nature that you are most likely to witness at some point in your software development career.

Performance Bugs:  
No user wants to use software with poor performance. Software bugs that lead to degraded speed, stability, increased response time, and higher resource consumption are considered performance bugs. The most significant sign of any such bug in software is by noticing slower loading speed than usual or analyzing the response time. If any such sign is found, the developer may begin diagnosing a performance bug. The [performance testing](https://www.thinksys.com/performance-testing-services/) phase is part of the development process where every such bug is detected in the software.

Security Bugs:  
While using software, security is the biggest concern of a user. Software with poor security will not only put the user’s data at risk but will also damage the overall image of the organization which may take years to recuperate. Due to their high severity, security bugs are considered among the most sensitive bugs of all types. Though it is self-explanatory, security bugs may make the software vulnerable to potential cyber threats. Sometimes, the software organization may not notice such attacks whereas in some cases, these attacks could cause monetary loss to the users, especially small and medium-scale businesses. XSS vulnerabilities, logical errors, and encryption errors are some of the commonest security bugs found in the software. Developers put special focus on checking the code to find any underlying [security bug](https://www.thinksys.com/security-testing-services/) to minimize the risk of cyber-attacks.

Unit Level Bugs:  
Unit level bugs are fairly common in software development and do not cause much damage to it as well. Facing basic logic bugs or calculation errors are considered unit-level bugs. The [testing team](https://www.thinksys.com/software-testing-services/) along with the agile team test a small part of the code as a whole. The reason why this testing method is preferred is to make sure that the entire code is working as it is meant to. While testing, the team may encounter unit-level bugs which can be fixed easily as the team is only working with a small code.

Functional Bugs:  
Software is as good as the feature it provides. If any of the functionality of a software is compromised, the number of users will start to decline drastically until it becomes functional again. A functional bug is when a certain feature or the entire software is not functioning properly due to an error. The severity of such bugs depends on the feature they are hampering. For instance, an unresponsive clickable button that is not functioning is not as severe as the entire software not working. [Functional testing](https://www.thinksys.com/functional-testing-services/) is done by the testing team to identify any such software bug causing functionality errors. Once identified, the team decides its further classification and severity.

Usability Bugs:  
Probably one of the most catastrophic bugs for software, a usability bug or defect can stop the software from working to its potential or make it entirely unusable. Examples of this bug in software testing are the inability to log in to the user account or the inefficient layout of the software for the user. The bottom line is that this type of defect or bug can make it complex for the user to use the software efficiently. The developers and engineers have to look out for the right [usability requirements](https://www.thinksys.com/qa-testing/complete-guide-to-usability-testing/) while testing the code to identify such bugs.

Syntax Errors:  
Syntax errors are among the commonest software bug types and do not allow the application to be compiled appropriately. This bug occurs due to an incorrect or missing character from the source code due to which the compiling will be affected. A small error like a missing bracket could lead to this problem. The development or testing team will get to know about this bug during compiling and will further analyze the source code to fix the missing or wrong characters.

Compatibility Errors:  
Whenever a software or an application is not compatible with hardware, or an operating system, it is considered as incompatible software or a compatibility error. Finding a compatibility error is not a common practice as they may not show up in the initial testing. Due to this reason, the developers should go for compatibility testing to make sure that their created software is compatible with common hardware and operating systems.

Logic Bugs:  
Another one of the most frequently found bugs in a software code, logic errors make the software give wrong output, software crash or failure. In the majority of cases, these bugs are caused due to coding errors where it may make the software stuck in a never-ending loading loop. In that case, only an external interruption or software crashing are the two only things that can break the loading loop.

Priority-Based Software Bugs:  
The foremost category here is priority-based software bugs. These are based on the impact these bugs leave on the business. Here, the developers will analyze the bug to determine its impact and its defect priority. Afterward, the timeline is given to each bug where it should be rectified within the stipulated time frame to minimize the bug effect on the user. Here are the four types of priority-based software bugs.

Low-priority defects:  
Low priority defects do not cause much impact on the functioning of the application. Rather, they are more about software aesthetics. For instance, any issue with the spelling or the alignment of a button or text could be a low-priority defect. The software testing will move to the exit criteria even if the low-priority defects are not fixed, but they should be rectified before the final release of the software.

Medium-priority defects:  
Akin to low-priority defects, medium-priority defects do not cause any significant impact on the software, but they should be fixed in any subsequent or upcoming release. Such defects may not have the same effect for every user and it may vary with the device as well as specific configuration they have.

High-priority defects:  
Unlike the previous two, the exit criteria of high-priority defects are not met until the issue is resolved. Every bug falling in this category may make certain features of the software unusable. Even though it may not affect every user, it is mandatory to fix these bugs before any further step is taken in software development or testing.

Urgent Defects:  
As the name suggests, all bugs that should be dealt with utmost urgency fall under this category. Urgent defects may leave a lasting impact on the brand image as well as affect the user experience drastically. The stipulated timeline for fixing these bugs is within 24-hours of reporting.

Software Bugs by Severity:

Depending on the technical effect that the bug will cause on the software, the bugs are categorized into four categories.

Low Severity Bugs:  
Low severity bugs do not cause much damage to the functioning of the software as their primary target is the user interface. For instance, the font of the text on the program differs from what was used. These bugs can be fixed easily and are nothing to worry about.

Medium Severity Bugs:  
Every bug that can affect the functionality of the software a little bit is considered a medium severity bug. All such bugs make the software function different from what it is supposed to function. Though they are not also major for the program, they should be fixed for a better user experience.

High Severity Bugs:  
High severity bugs affect the software functionality, making it behave differently from what it was programmed for. Not only are such bugs damaging for the software, they sometimes make the entire software unusable for the user.

Critical Bugs:  
Critical bugs are the most damaging bugs in the category that can hinder the functionality of the entire software. The reason why critical bugs are considered the most damaging is that further testing on the software becomes impossible till such bugs exist in the software.

4.Advantage of Bugzila

There are many bug tracking systems at present. A bug tracker is an inherent part of any web site testing, desktop testing, or mobile testing. Each bug tracking instrument has its characteristics, strengths, and weaknesses.

One of the popular bug trackers is Bugzilla. Any software testing company knows that it has been on the market for more than 15 years and has a reputation of a good open-source bug racking tool.

Many testers have been working with it for years. Bugzilla became a kind of standard and other error tracking systems are often compared to it.

A lot of software testing experts find that Bugzilla is best for mobile application testing, desktop testing, or web site testing when the project is small.

The Advantages of Bugzilla are:

it is an open-source widely used bug tracker;

it is easy in usage and its user interface is understandable for people without technical knowledge;

it easily integrates with test management instruments;

it integrates with an e-mailing system;

it automates documentation.

Not all testers like to work with [Bugzilla](https://qatestlab.com/approach/technologies/bug-tracking-tools/). Some of them find that its interface is too sophisticated, complain that it is hard to manage the logged in errors and that there are many defects in the code of this instrument.

5.Difference between priority and severity

|  |  |  |
| --- | --- | --- |
| Parameters | Severity in Testing | Priority in Testing |
| Definition | Severity is a term that denotes how severely a defect can affect the functionality of the software. | Priority is a term that defines how fast we need to fix a defect. |
| Parameter | Severity is basically a parameter that denotes the total impact of a given defect on any software. | Priority is basically a parameter that decides the order in which we should fix the defects. |
| Relation | Severity relates to the standards of quality. | Priority relates to the scheduling of defects to resolve them in software. |
| Value | The value of severity is objective. | The value of priority is subjective. |
| Change of Value | The value of Severity changes continually from time to time. | The value of Priority changes from time to time. |
| Who Decides the Defect | The testing engineer basically decides a defect’s severity level. | The product manager basically decides a defect’s priority level. |
| Types | There are 5 types of Severities: Cosmetic, Minor, Moderate, Major, and Critical. | There are 3 types of Priorities: High, Medium, and Low. |