Assignment Questions 5

**Q1. What is Exception in Java?**

Exception is refers to a mistake that will occur during the runtime of our application which will result in abnormal termination or abrupt termination our application which has a developer needs to handle

**Exception:** it’s a unwanted event which occurs at => runtime => Abnormal Termination

**Q2. What is Exception Handling?**

Exception handling is a process of handling exception in such a manner because of which abnormal termination of our application should not happen

**Q3. What is the difference between Checked and Unchecked Exceptions and Error?**

**Checked Exception:**

Checked Exception is a exception where compiler only will identify code there is any risky code and compiler only giving Warning during compile time only.

**UnChecked Exception:**

If compiler is not Checking then we can call it as UnChecked Exception

**Error:**

Errors mostly occur at runtime that's they belongs to an unchecked type.

**Q4. What are the difference between throw and throws in Java?**

**Throw:** it is used to re throw an Exception

* In Catch Block we usually write throw keyword.
* Statement below the throw keyword is not allowed.

**Throws:** Java throw keyword used in the method Signature to declare an Exception which might be thrown by the function While the Execution of the code.

* Throws is used the method signature

**Q5. What is multi threading in Java? mention its advantages**

Multihreading **in java it is a process of executing multiple threads simultaneously**

**Advantages:**

* It **doesn't block the user** because threads are independent and you can perform multiple operations at the same time.
* You **can perform many operations together, so it saves time**.
* Threads are **independent**, so it doesn't affect other threads if an exception occurs in a single thread.

**Q6. Write a program to create and call a custom exception**

**Program:**

class CustomException extends Exception {

String message;

CustomException(String str) {

message = str;

}

public String toString() {

return ("Custom Exception Occurred : " + message);

}

}

public class MainException {

public static void main(String args[]) {

try {

throw new CustomException("This is a custom message");

} catch(CustomException e) {

System.*out*.println(e);

}

}

}

**Q7. How can you handle exceptions in Java?**

By using Try{}, Catch{}, block we handle exceptions in java. We can handle Exception in 3Ways .

**Handle Exception:** using try Catch block.

**Duck the Exception :** Throws

**Re-Throwing an Exception :** try catch throw throws finally,

**Q8. What is Thread in Java?**

* Separate flow of execution is called "Thread".
* If there is only one flow then it is called "SingleThread" programming.
* For every thread there would be a separate job.

**Q9. What are the two ways of implementing thread in Java?**

In java we can define,instantiate and start a new Thread in 2 ways

a. Implementing Runnable interface

b. extending Thread class

**Q10. What do you mean by garbage collection?**

Garbage collection is a process used by programming languages to automatically manage memory allocation and deallocation. It involves identifying and freeing up memory that is no longer in use by the program, which helps prevent memory leaks and ensures efficient memory usage. Essentially, garbage collection automatically cleans up and removes unused objects or data from the computer's memory, allowing the program to run smoothly and avoid memory-related issues.