Array:

```
String[] array_name;          //data_type arr_name[arr_size]; in C
array_name = new String[array_size];
```

forEach:

```
for(int i:collection_name){
        System.out.println(i)
}
```

1. Here i represents the items of the collection and Note: its not a index like in normal loop.
2. Only i will be used to in println() statement not a[i].
3. Here i is a Counter Variable not Index.

Package is JAVA

- Package is a collection of classes.(which contains at least two packages)
- There are two types of Packages we can use in Java:

    1. Built-in Packages (Pre-defined packages) e.g. → lang,util,io etc
        - Lang
        - Thread
        - Util
        - io
    2. User-Defined Packages

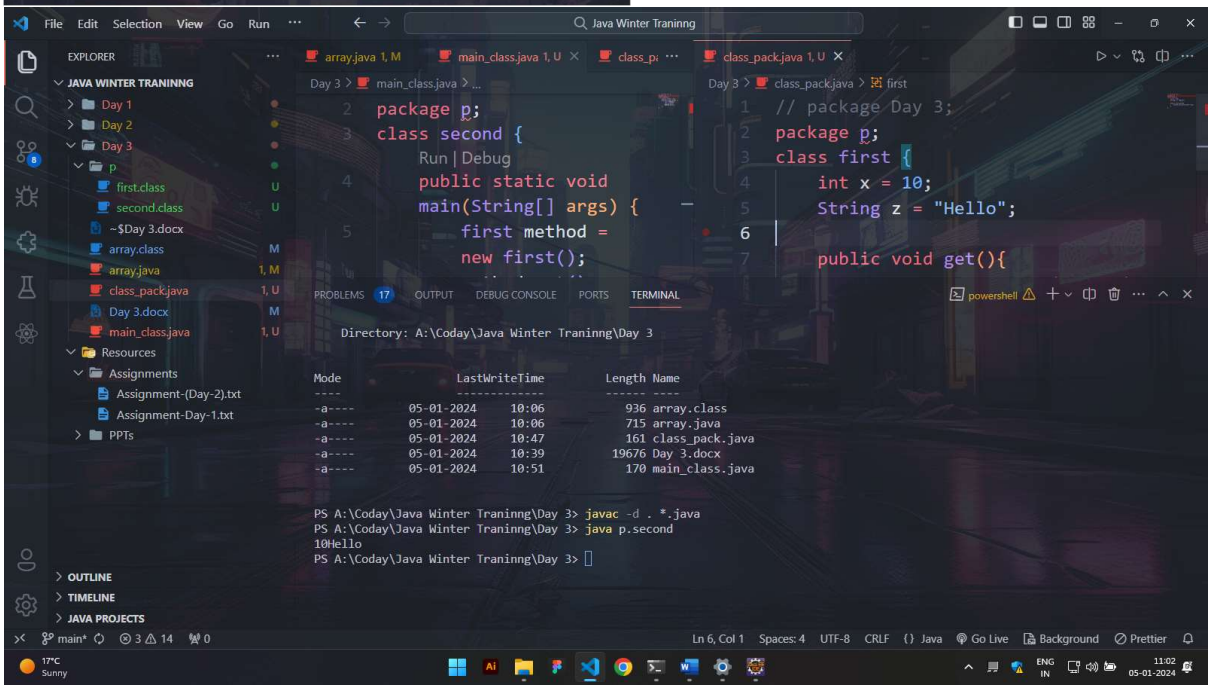
How to Create User defined Packages in Java?

- We can use method of different class in different class.
- javac -d . *.java // This command makes package example can be seen on this page.

```
    Directory: A:\Coday\Java Winter Traninng\Day 3


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----         05-01-2024     10:06            936 array.class
-a----         05-01-2024     10:06            715 array.java
-a----         05-01-2024     10:47            161 class_pack.java
-a----         05-01-2024     10:39          19676 Day 3.docx
-a----         05-01-2024     10:51            170 main_class.java


PS A:\Coday\Java Winter Traninng\Day 3> javac -d . *.java
PS A:\Coday\Java Winter Traninng\Day 3> java p.second
10Hello
PS A:\Coday\Java Winter Traninng\Day 3>
```




```
import will be second and package will be first
```

Access Modifiers

Types

- default
- public
- protected
- private

will it Run Table?

Access Modifiers	default	public	protected	private
Same class	Yes	Yes	Yes	yes
Class in same package	Yes	Yes	Yes	No
Subclass in same package	Yes	Yes	Yes	No
Subclass outside same package	No	Yes	Yes	No

- By default if modifier not defined then it is set to be default
- We can save java file with any name but during run we have to call the class in which main method exists.
- The class in which main method exist , could not be private.
- If both public then save with main method class name.

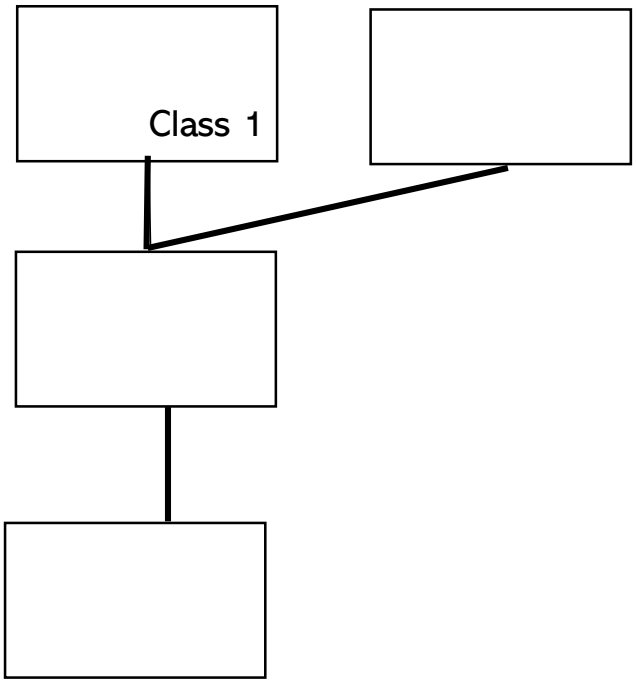
Sub-Classes in Java

- Parent Class/Super class/Base class
- Child Class/Derive class (main method)

Inheritance in JAVA

- A mechanism to access the traits of parent in class by child class.
- extends keyword is used.
- Types:-
    1. Single inheritance // Imp
    2. Multiple inheritance //Imp
    3. Multilevel inheritance
    4. Hybrid inheritance

Single inheritance:



Abstraction

- b important features of OOPs Paradigm which hides the implementation and only shows the application.
- Two Way:-
    1. Through Abstract class: gives probability so may we can achieve to some extent or not.
        - abstract keyword is used.

    2. Through interface(100%).

Syntax:-

```
abstract class class_name{

    methods(abstract or non-abstract)

    abstract void get(); //abstract method – No Body

    abstract void get(){
        //Non-abstract method – As Body and we shown information
    }


}

interface interface_name{

    //methods(abstract)

    void get(); //abstract method and no abstract keyword is required as by default it is.
//Cant define a Non-abstract method inside a interface


}
```

- From Security pov, Interface is Better to attain abstraction.
- Class → class = extends Keyword
- Interface → Class = implements Keyword

- Interface → Interface : implements Keyword
- In Derived Class the Access modifier of method will be stronger than the method declared
- super(); is a keyword used to refer parent class variables,methods and constructors.