	Fage No.	1
	19-July-2017/12/08/2017	
	PACKAGES	
	Definition Packages are collect of similar type of classes A data interpaces.	
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	Need	
	If we gother similar type of APIs in o place it would be carrier for program to search and a fr.	ne mer
	Imp.	
	No class can exist without any package i	Λ
	Java	
	· Co, if you have not given any package making command in a javai file, the	<u>-</u>
3	compilor will create a default Package.	in the
	making command in a 'java' file, the compiler will create a default Package same jolder and put the 'class' file to the default package.	Ne en-
	. Default packages don't have any name	
	. The classes of 'default' package can't be outside that package!	used
	· Also, Packages are never OverRiden in Java.	
		Carried States

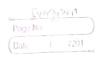
	90% of Jova packages are present in these two packages.
Child (Pack of ages	1. Java 2. Java x (i) aut (ii) lang (ii) net (iv) IO
	Linking Command in java -> impost Single imposit statement is used to link only one (1) package with your progrown All the imposit statements must be written above the class keyward.
•	imposit java.aut.*; 2* to link all classes imposit java. util.*; I of the package. Packages are accessed via Association.

Now, Example: import jana awt.*; import jana awt.*; class Temp prome f = new Frame(); Date d = new Date(); Sop(d); Button b = new Button(); tutil packages we have degraded perform—ance of program So, instead now we will link only those classes that we we in our program. Example: import jana awt. Frame; twe don't write hore program import jana awt. Button; gives compil crown import jana awt. Button b = new Button(); psvm() Frame f = new Frame(); Date d = new Date();		(Deta) / 1201
Example: import jana awt *; import jana wtil *; class Temp i povm() Forame f = new Forame(); Date d = new Date(); Sop (d); Button b = new Button(); 3 Hene, By linking all classes of aud 4 'util' packages we have degraded perform— -ance of program So, instead now we will link only those classes that we we in our program. Example: import jana awt Frame; the don't write hore program import jana awt Button; gives compil' commitment jana awt Button; gives compil' commitment jana awt Date; Class Temp Class Temp Sop(d); Button b = new Button();		Now
import java aut. *; import java aut. *; class Temp p & vm() Forame f = new Forame(); Date d = new Date(); Sop(d); Button b = new Button(); * Here, By linking all classes of aud 4 'util' packages we have degraded perform— -ance of porogram. So, instead now we will link only those classes that we we in our program. Example:— import java aut. Frame; if we don't write hore program import java aut. Button; gives compil' coran. import java aut. Date; Class Temp Sop(d); psvm() Sop(d);		
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Button b = new Button(); psvm() = 3		import java util. Date;
Button b = new Button(); psvm() = 3		
psvm() = 3		
	000	Button b = new Button();
		psvm() = 3
Date d = new Date();		
Date d= new Date();		Frame f=new Frame();
	3.3	Jate d'= new Date();

٥	We can also use a class without impo-
	We can also use a class without impo- -orting package
	Escample:-
	class Temp
	3
	pau m().
DOVE	jana-aut-Frame f= new jana-aut-Frame
	(1);
	}
	<i>y</i>
=	This is a long method 4 hence considered as bad programming.
Im	Jama' carkage is immeted to each into
	'lang' package is imported to each java file by the compiler, that's why we use
	"String" of "System" class without
	importing. ilang package. System. 4
,	"String" of "System" class without importing ilang package System "A "String" are classes of lang package.
eu Ø	> Why only 'lang' is imported?
Ans	-> Beloz it contains general purpose
	Classes. All perogram will use one ar
	other class of lang package.
	> Why only 'larg' is imported? > Becoz it contains general purpose Classes. All program will use one ar other class of larg' package. Thats why 'larg' is im implicitly included.

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	Date : / 1701
	Package Making Command.
V	Rule Package making command must be the first line I in a java file.
	D:/f1> Temp.java
	Example:- package p1:
	Class Temp { void show()
Done	Sop ("pkg p1");
	PDVM()
	Temp \$1 = new Temp (); \$\frac{1}{2}\$
	2
•	All After compilar 0/8 will treats packages as folder but its not:
•	D:/ 1 > javac Temp. java - compiles b/w but not creates package
1	D://1> java Temp -> Will giver compilar



- · It we have given any package making Command in any java file, we can't compile it normally.
- · We have to use a switch of journe toul

13:/f1>javac -d e:/f2 Temp.java

(1) This will make a package (1) And Ask for its destination

Note:
"-d' can also be used without package making command. It will just go to the given destination 4 create a "default" package and put "classifile in this default package.

Now, To Access prokage that we created • e:\ 12 > p1

L> 0/s treats as felder

→ e:\\${2/p1> java Temp1 → But ne can't use it as felder.

So, To Access/ Execute

e:1/2 > java p1. Temp1

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,	Now, if we want to make package elsewhere
Det.	D:/ f1 > javac -d 2:/f1 Temp. java New desired directory.
700	D:\f1> jawac -d · Temp-jawa Represent T Makes in current directory current dir. in i.e. Here - D:\f1.
	Other Scenar
	OTHER SCENARIOS
	Keeping More than One class into a single package
	There are two ways for achiving this.
(i)	Keep all the classes in single jour file
	Example:- Class Temp1 } Class Temp2 \$ 2

Packages are also made to use a class Outside a folder/package.

•	So, we use "public' in all class to access att "classes outside the package
	Now, Above program is Reweitten as:
	Public class Temps
	Public class Temp2 \$ }
2 42	Public class Temp3
e	But we can't keep more than one (1) public class in single -java yele.
Imi	Rule You caret have more than one public class in single java file and the name of that 'java' file will be the same as your public class name
	Reason for above Rule.
1	Becoz of implicit compiling.

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· We need to make 'class' 4'in' public to use them outside their package.

Reason jon Rule (on Left H& page)

· Because of implicit compiling in Java

Example:

class Temp

Now, All Below classes in new separate file.

povm():

rew Temp1();

new Temp2();

new Temp3();

new Temp3();

new Temp10();

class Temp1

class Temp1

class Temp1

class Temp10

class Temp10

class Temp10

All these 'java' files are in same folder.

- Before 'implicit compiling' we had to compile Temp1', Temp2', --- Temp10' before using in A Compiling 'Temp'.
- But in A After Concept of implicit compiling, we only have to compile Temp' directly A others will compile automatically.

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9	But implicit	compiling'	only_	works	الأد
	same pack	<u>yge.</u>			

· Implicit compiling' only works if name of java' file is some as y class' name. of

Example

	1. A. jana to Hatriegona	B.java
Done	Public Class A<	class B
	3	psyml)
		3 A(): →Object or
		new A(); →object of class A.
		9

- Here, directly compiling B' we car will also have "A.java" compiled successfully, as name of "java" file is same as "public class" name.
- in ditto named "sava" file.

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- Hence, AD we see Above to impliment implicit compiling we name 'java' file as 'public class' name
- · Also if we would include more than one jova 'public class' in single jova file we will not be able to give any exact name to 'joua' file.

Steps for keeping more than one java file for each public class in ringle days por kage

(i) Step #1 -> Make a parate separate java file

por each public class. 4 give same

package making command in all of them.

D:\f1>Temp1.jaw package p1	package	p1; pack	oge pi
public class Temp	of public cla	asstemp public	class 1emp3
> =	3	}	

(ii) Step#2 → Keep a same package making com-

Now, Compiling.

D:/f1>javac -d·*·java L'compiles all 3 in one go.

	All the part class' Package 'p1' And As in java package At compile will just class' piles to some 'p1' or create p1	files will go in s one not OverRiden t keep adding new	
	Now, Linking a Self-made pa Self-made package i D:/f1>Temp1.java		
	package p1;	Compiling	
Drowing C'	Public Class Temp1	D:/f1>jowac -d. *jowa	
Dwing C	[public] vaid show() Sop ("pkg p1");	This successfully creates package pl 4 compiles Templ. Jana. in it:	
DE11.5	public static vaidmain()		
OR	Temp1 = new Temp1(); ±1. Show ();		
	new Temp1(). Show();		000
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Now, linking 'p1' to another Self created package p2' in 'E'drive.

E: \ /2 > Temp2. jana

package p2;

import p1.*;

Class Temp2

Comvag

Tempt1 = new Temp1(); or new Temp1() · show()

\$\frac{1}{2} = \text{Show()};

Compiling #1

E:1/2 > javac -d·*.java

- It will not compile 4 give error, as we didn't tell compiler where to look for pl while impositing it.

It will again give everer as we have not made class 'Temp1' public. Compiling #2 · Making class 'Temps' public · Compiling Again. It will again give evour as we have not made made shows in public. Compiling #3 · Making "show" j" public · This typ time, are so successfully. As we have set classpath, we can even execute "Temp1" from any location. E:/ f2> java p1 Temp1

K RWe:

For all those: packages which one not found in nt. jan file we have to set the class-path. The classpath of 'est. jan' is impli-citly set