|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Access Modifier | Class | Package | Sub class  Same Package | Sub class  Diff Packge | World |
| Public | YES | YES | YES | YES | YES |
| Protected | YES | YES | YES | YES | NO |
| No modifier | YES | YES | YES | NO | NO |
| Private | YES | NO | NO | NO | NO |

YES : Accessible

NO: Not Accessible

Based on these table we can answer the questions:

1)

(Accessing from Program class)

Class B is derived from A

i.e. B is sub class and Same package

Accessable Access modifiers from Program class using object of class B:Public,Protected,No modifier

So we can access

d (public member in class B)

e (protected member in class B)

z (public member in class A)

y (protected member in class A)

We can assign 1 to all these

Answer: d,e,z,y will contain value 1

2)

(Accessing from B class)

Class B is derived from A

i.e. B is sub class and Same package

Accessable Access modifiers from class B:Public, Protected, No modifier, private variable of B

So we can access

d (public member in class B)

e (protected member in class B)

f (private member of class B)

z (public member in class A)

y (protected member in class A)

We can assign 2 to all these

Answer: d,e,f,z,y will contain value 1

3)

Public int z;

Will give us warning but not error.

Because there are two public integers with same name z but in different classes A and B,

Computer will be in ambiguity that which z is to be selected whether z in class A or z in class B.

But we can deal with this by specifying through creation of object.

**Example1:**

A obj = new A();

System.out.println(obj.z);

Computer will choose z in class A

**Example2:**

B obj = new B();

System.out.println(obj.z);

Computer will choose z in class B

So it is just a warning not an error.