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1] Difference between class and components.

class	components.
<ul style="list-style-type: none">- A class is a general, abstract representation of an object, that specifies the fields and methods that such an object has.	<ul style="list-style-type: none">- A component is the fundamental user interface object in Java.
<ul style="list-style-type: none">- When we write OO programs we don't define individual objects, we define classes, and then use them as templates for constructing objects.	<ul style="list-style-type: none">- Everything you see on the display in a Java application is a component. This includes things like windows, panels, buttons, checkboxes, scrollbars and text fields.
<ul style="list-style-type: none">- Each individual object is called an instance of its class.	<ul style="list-style-type: none">- a component usually must be placed in a container.

2] How many basic/primary data types supported by Java?

- Basic datatypes are :- Integer, floating-point, character, string, double, byte, short, long.

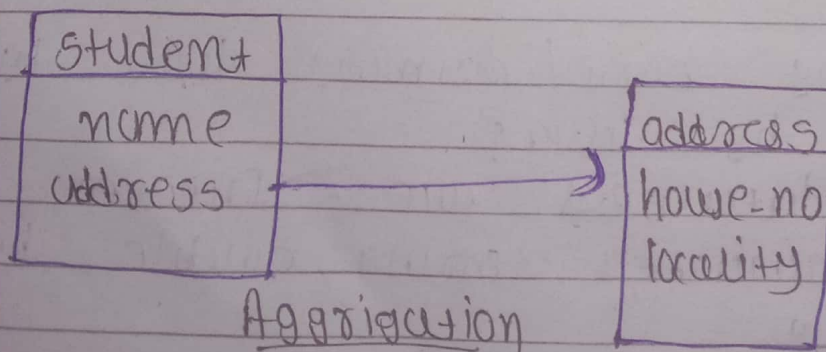
3] What is the difference between object value and data value.

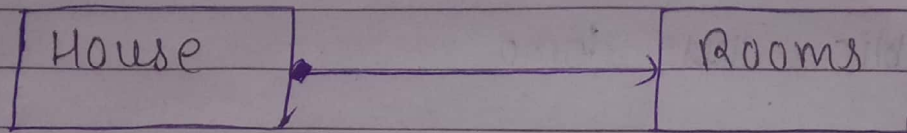
- In Java, a method can return any type of data including object is a object value.
- The value that derived from processing the data using different analytics that contributes to problem solving.

4] What is default modifier of class, variable and method,

- default modifier of class is private.
- default modifier of variable is public.
- and default modifier of method is private.

5) Create any two class show the relationship of aggregation and write another two class to show the relationship of composition.





composition

- 6] Is there any other way to create the class instance without new keyword?
- using newInstance (Reflection)
 - using clone.
 - using Deserialization.
 - using classloader.

- 7] What is constructor modifier by default. constructor doesn't have by default modifier. It depends on class access modifier.

- 8] What is get() and set() method with example.

- get() - The get() method of List interface in Java is used to get the element present in this list at a given specific index.

Example -

```
import java.util.*;
```

```
public class demo
```

```
{
```

```
    public static void main (String [] args)
```

```
{
```

```
        int arr = new int [4];
```

```
        arr.add (10);
```

```
        arr.add (20);
```

```
        arr.add (30);
```

```
        arr.add (40);
```

```
        System.out.println ("List :-" + arr);
```

```
        int element = arr.get (2);
```

```
        System.out.println ("The element  
is :-" + element);
```

```
    }
```

```
}
```

Output :-

List: 10, 20, 30, 40

The element is :- 30

set() - The set() method takes a parameter and assigns it to the name variable.

Example -

```
import java.util.*;
```

```
public class setExample
```

```
{
```

```
    public static void main (String [] args)
```

```
{
```



```

Set hash-set = new HashSet()
hash-set.add ("Example");
hash-set.add ("of");
hash-set.add ("set");
hash-set.add ("method");

System.out.println (hash-set);
}
}

```

Output -

[Example, of, set, method]

Q7] What is aggregation with example?

- Aggregation is a term which is used to refer one way relationship between two objects.

- In Java, aggregation represents HAS-A relationship, which means when a class contains reference of another class known to have aggregation.

: The HAS-A relationship is based on usage, rather than inheritance.

Example -

```

public class Address
{

```

```

    String city, state, country;

```

```
public Address (String city, String state,  
                String country)
```

```
{
```

```
    this.city = city;
```

```
    this.state = state;
```

```
    this.country = country;
```

```
}
```

```
}
```

```
public class Emp
```

```
{
```

```
    int id;
```

```
    String name;
```

```
    Address address;
```

```
    public Emp (int id, String name, Address  
                address)
```

```
{
```

```
        this.id = id;
```

```
        this.name = name;
```

```
        this.address = address;
```

```
}
```

```
    void display()
```

```
{
```

```
        System.out.println (id + " " + name);
```

```
        System.out.println (address.city + " "
```

```
                                address.state + " " + address.country
```

```
);
```

```
}
```



```

public static void main (String [] args)
{
    Address address1 = new Address
        ("g2b", "UP", "india");
    Address address2 = new Address
        ("gno", "UP", "india");

    Emp e = new Emp ("Urum", address1);
    Emp e2 = new Emp ("Urum", address2);

    e.display();
    e2.display();
}
}

```

10] what is composition with example?

- The composition is a design technique in java to implement a has-a relationship.
- Java inheritance is used for code reuse purposes and the same we can do by using inheritance.
- The composition is achieved by using an instance variable that refers to other objects.

Example -

```
class A
```

```
{
```

```
    int x = 10;
```

```
}
```

```
class B
```

```
{
```

```
    int y = 20;
```

```
    A a = new A();
```

```
    System.out.println("x: " + x + " y: " + y);
```

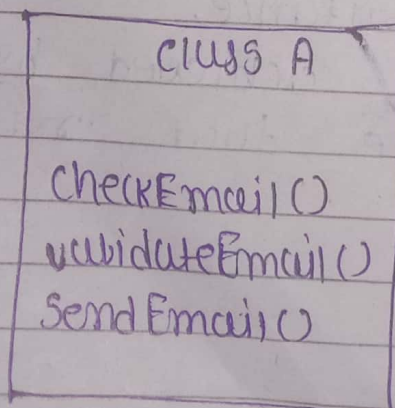
```
}
```

Output -

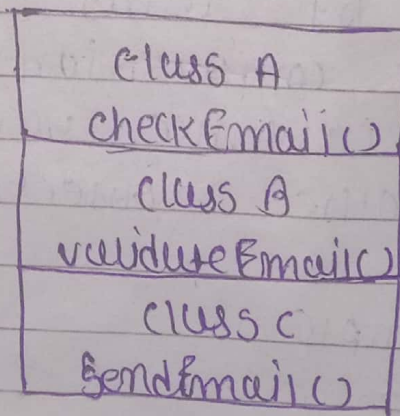
[10 , 20]

iv) What is cohesion?

- Cohesion is the object oriented principle most closely associated with making sure that a class is designed with a single, well-focused purpose.
- The more focused a class is, the more cohesiveness of that class is more.



Low cohesion



High cohesion.