Reader ====> To read character type of data.(BufferedReader) Writer ====> To write character type of data.(PrintWriter) Binary Type of data \_\_\_\_\_ InputStream OutputStream FileOutputStream,ObjectOutputStream
Serialization ObjectInputStream,FileInputStream
De-Serialization (java.io.\*) RAM HDD(File) binaryformat Volatitle memory (java.io.\*) binaryformat abc.ser sid = 10std sname =sachir byte saddr = MIcodes sname =sachin MarkerInterface saddr = MI Student(Serializable(I)) MarkerInterface Student(Serializable(I)) KeyPoints 1. Object should have the facility of Transporatation.(transported over n/w). 2. Object should be supported to store inside file system.(Using Streams) Serialization(I) #2 ObjectOutputStream HeapMemory i = 10 j = 20i = 10object FileOutputStream j = 20#3 abc.ser(file) De-Serialization HeapMemory ObjectInputStream abc.ser i = 10code FileInputStream object abc.ser(file) Transient ======= int j = 20int j =20 abc.ser class Dog implements Serializable final transient int i = 10; 10 static transient int j = 20; transient -> variable don't participate in serialization final and transient -> final means variable won't come into pitcure it is directly the values static and transient -> variable which is static is not a part of Object, so it is not a part of Serialization. If we don't know the order of Objects we use the following approach abc.ser Object o = oos.readObject(); Dog if ( o instanceof Dog) // perform Dog related operation Cat if (o instanceof Cat) Cat // perform Cat related operation if (o instanceof Rat) // perform Rat related operation Rat Object Graph ========= j=20 Rat abc.ser j=20 Rat bytecodes of De-Serialization Serialization Rat Cat Dog Dog(Serialiable) Object Graph abc.ser Serialization ========== class Account implements Serializable userName = sachin String userName = "sachin"; username:sachi password = tendulkar username: sachin password:null transient String password = "tendulkar"; password: null Serialization DeSerialization CustomSerialization \_\_\_\_\_ Actual Object abc.ser DeSerialized Object userName = sachin username:sachi password = tendulkar username: sachin \password:null password: nw1 tendulkar Serialization 123 tendulkar DeSerialization Serialization 1. Default Serialization should happen (password =null,username=sachin) 2. write the encrypted password data as shown below encypd = "123"+password; 3. Now write the encypted password also to the serialized Object

## De-Serialization

- 1. Default De-Serialization should happen (password =null,username=sachin)
- 2. Read encrypted password and decrypt the encrypted password 3. Attach it to password variable with decrypted value.