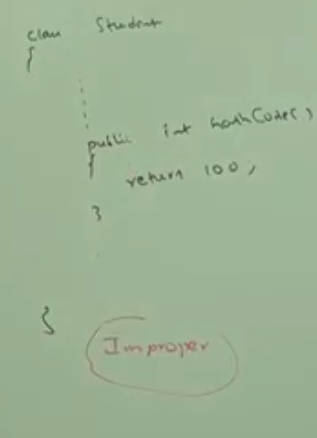
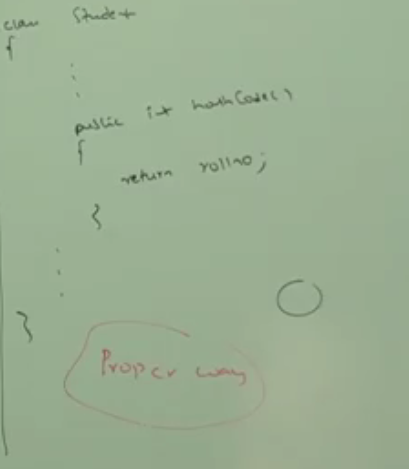
hashCode()

1. A-re hash Code and object address same?
   1. No. As we can override hashcode() with our own implementation where we can return our like number. We can replace the address of object in memory. So hash code and object address in memory are not same.
   2. Java is user friendly language and machine friendly language. So we can access the machine info such as the address of object, the size of object. If you want, better go for C, C++.
   3. So hash code is not object’s address as there is no way to know the address of object in java.
2. What is hash code?
   1. A unique no (Code) generated by JVM for every object.
3. What is the use of hash code?
   1. Hash Code is used by JVM to insert object in buckets used in Hash-Based Data Structure.
4. Advantage?
   1. Search operation becomes very efficient.
5. Number one **searching algorithm** today is **hashing.**
6. **How Hash Code is generated?**
   1. If we are giving the chance to Object class hashCode() method, it will generate hash code based on address of the object. It doesn’t mean that hash code represents address of object in memory.
   2. Based on our requirement, we can override the hashCode()
7. Overriding hashCode() method
   1. 2 ways
      1. **improper way**: if for every object, we generate a unique no.



returning not unique hash code. so improper

* + 1. **proper way**:  
       

rollNo is unique for each student. so returning rollNo is always unique hash code.

toString() vs hashCode()

1. If we are giving the chance to Object class toString(), it would internally call hashCode()  
   
2. if we are overriding toString(), then our method may not call hashCode().
3. 