Story-of The nisson skyline"

Nissan is building their next-gen skyline GiT-R services.

Core skyline engineers - They design sharred come features

(like engine type; brand):

External modification teams to like racing teams on customs shops, who only need to follow specific set of rowes Cwke must implement twibo boost, support the telemetry).

Abstract class + skyline Bluepreint

The skyline base model has a common chassis, missan

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briand and a priedefined engine step up. These features

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are shared by all skyline cars but actual behaviours

clike acceleration on top speed) is different depending

on the model (GT-R, GT-R Nismo etc).

So, missan defines an abstract class

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Interiface - Skyline Racing standard.

Now, a tracing committee Says:

Double Peage

"Any can entering the skyline facing league must implement turbo boost and telemetry features."

This is not about inheritance on shared code, but about a contract they must follow use of abstract class when we are defining a base template with common obta and behavior, a Missan's own skyline models. use on interface when we are defining a set of ru OT capabilities, like what Trace-compliant rehicles or Support-regardless of who makes them. public abstract class Missanskyline ? protected string model,

protected string enginetype = " vg Twin Tunbo", public missanskyline (Sticing model) & This model 2 model; sont so most in the public void Show Brand () {

System - out-print in ("Brand: Nissan");

public void Show Engine() {

System. out. pπintln (" Engine: " + engine Type),

public abstract void accelerate CDJ public abstract void topspeed (); public class GTR extends vissanskyllne { //extending abstract public GITR(){ public GTR()1

Super ("GT-R");

Super ("GT-R"); · Governide public void accelenate () { System. out. prilitin (model + "accelenates from 0-100 Km/h in 3.5 seconds. 11) Die Die void enable Telemetry (), = : Governoide public void topspeed () & System out println (model + "top Speed: 315 Km/h" ELDA 3 Palgares isonal carlet ") ultiming two moter be in bong Jak public class GTRNismo extends Nissansky line & Public GTRNismo() { Super ("GIT-R NISMO"), by Suday and, apply, and filterings, "); "

```
public void accelenate() {
          System.out-println (model+ a accelerates From 0-Loo
               Km/h in 2.9 seconds. 4);
    Dovermile
     public void topspeed () {
          System. out. println (model + "top speed: 330 Km/h")
 public intenface RacingFeatures & Moeting internface
     void enable Turbo Boost ();
    void enable Telemetry ();
Public class Skyllne Race Mod implements Racing Features of
    Povennide + 1950
    public void enable Turibo Boost CD &
       System. Out. printin ("Turbo Boost enabled: Additional 150
                                           HP speed asked !!)
              Achesia sporke
                                broppe of the Carbonisms
    Coverride
    public void enabletelemetry () ?
        System. Out. prointln ("Telemetry System online: Monitoring
             speed, RPM, and Gi-Forces. 4);
     3
```

public class Skyline & 11 main class public static void main (String angs 57) ? Nissanskyline, baseModel - new GitR(); basemodel-Show Brand (); basemodel. Show Engline () basemodel accelenate (); basemoder topspeed (); System.out.pmintln (u-----u), Nissanskyline promodel = new GTRNismo(); promodel. Show Briand (); promodel · Show Engine (); promodel. accelerate (); promodel. topspeed (); sometimes and the System-out-Println (n ---- a) you be Pacing Features mod Can = new Skyline Race mod 9; modcan - enable Turibo Boost (); modean. enable tetremetry (); public void domonk () f 3-(4+1160) Si 10=1 min)

Is it true that invoking methods in Interface are slower than invoking it within the abstract classes? Explain an NISSONSKYLINE LOSSEMODEL write new example. sservidel. Show Brand (),

Ans: yes, calling interiface methods was slightly slower due to dynamic dispatch through the interface table Abstract class method calls can be more dinect, since thereis more migit inhanitance structure. method call via interface mon smill emeans

Sichlagele shampu

code:

intenface My Intenface () 6009290+ 1000000000 2 void dowork(); abstract class myAbstract class ? abstract void dowork(); class Interiface Implements My Interiface ?

method can via abstract class.

public void dowork () of int x =0; (1m+120) 12100) 1++) f. X+zi

```
Class AbstractImpl jextends MyAbstract class &
     public vold dowork () {
         int x 20;
         for (Int 1 20; 1<100; 1++) x+zi;
public class penformancetest &
 public static void main (String anget 1) {
        myIntenface iobj = new Intenface Impl ();
my Abstract Class aby = new Abstract Impl ();
        long stanttime, end time;
    > StantTime = System - nanoTime ();
        Pon (Inti =0; il 1_00,000; i++) iobj · 20waki
       end time = System. mano Time ();
       System-out-printin ("Interiface method firme: " + (end tir
             - stant Time) + 1 nsu);
      Start Time = System. nanoTime ();
      for (Inti = 0; 1< 1-00-000) i++) aboy. Lowotk ();
     erdfime = System · manaTime ();
     System · out-prolntln ("Abstract class method time! " +
     3 (end time - stant time) + "ns");
```

			that they take a seed to
	Make a table to Summanize the differences between Abstract class and Intervace.		
		X (++1 :001) ; 00	
	Feature	Abstract class	Interiface
Ì	Inheritance	single of testam	
	method implement		default & Static
	colompton	Instances & Statica 20	public static final
	vaniables		
	constructor	yes without and	
	Access modifier	private, priotected?	only public
	pett formance	tasterronom metal	Slower
DUNING LOUTING TO NILLING			
il) smitanis 1 smit trots -			
7	movice tota		
11	s mother time:	System : nanatime (); System : nanatime ();	= million
		· In (Prosture	4.011813