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| **Bridge** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20****21****22****23****24****25****26****27****28****29****30****31****32****33****34****35****36****37****38****39****40****41****42****43****44****45****46****47****48****49****50****51****52****53****54****55****56****57****58****59****60****61****62****63****64****65****66****67****68****69****70****71****72****73****74****75****76****77****78****79****80****81****82****83****84****85****86****87****88****89****90****91****92****93****94****95****96****97****98****99****100****101****102****103****104****105****106****107****108****109****110****111****112****113****114****115****116****117****118****119****120****121****122****123****124****125****126****127****128****129****130****131****132****133****134****135****136****137****138****139** | **using** System;**namespace** Bridge { **abstract class** UniversalController { **public** TV tv; **public** UniversalController(TV tv) { **this**.tv = tv; } **public abstract void** On(); **public abstract void** Off(); **public abstract void** ChangeChannel(**int** channel); **public abstract void** IncreaseVolume(); **public abstract void** DecreaseVolume(); } **class** GermanyController : UniversalController { **public** GermanyController(TV tv) : **base**(tv) { } **public override void** ChangeChannel(**int** channel) { tv.ChangeChannel(channel); } **public override void** DecreaseVolume() { tv.ChangeVolume(tv.Volume - 1); } **public override void** IncreaseVolume() { tv.ChangeVolume(tv.Volume + 1); } **public override void** Off() { tv.Off(); } **public override void** On() { tv.On(); } } **class** ChinaController : UniversalController { **public** ChinaController(TV tv) : **base**(tv) { } **public override void** ChangeChannel(**int** channel) { tv.ChangeChannel(channel); } **public override void** DecreaseVolume() { tv.ChangeVolume(tv.Volume - 1); } **public override void** IncreaseVolume() { tv.ChangeVolume(tv.Volume + 1); } **public override void** Off() { tv.Off(); } **public override void** On() { tv.On(); } } **abstract class** TV { **protected int** volume; **public int** Volume { get; } **public abstract void** On(); **public abstract void** Off(); **public abstract void** ChangeChannel(**int** channel); **public abstract int** ChangeVolume(**int** volume); } **class** LGTV : TV { **const int** MAX\_VOLUME = 100; **public override void** ChangeChannel(**int** channel) { **if** ((channel <= 0) || (channel > 100)) **throw new** Exception("Invalid Channel#:" + channel); //Change channel here.... } **public override int** ChangeVolume(**int** volume) { **if** (volume < 0) volume = 0; **else** { **if** (volume > MAX\_VOLUME) volume = MAX\_VOLUME; **else this**.volume = volume; } **return this**.volume; } **public override void** Off() { //Off the TV } **public override void** On() { //On the TV } } **class** SonyTV : TV { **const int** MAX\_VOLUME = 80; **public override void** ChangeChannel(**int** channel) { **if** ((channel <= 0) || (channel > 100)) **throw new** Exception("Invalid Channel#:" + channel); //Change channel here.... } **public override int** ChangeVolume(**int** volume) { **if** (volume < 0) volume = 0; **else** { **if** (volume > MAX\_VOLUME) volume = MAX\_VOLUME; **else this**.volume = volume; } **return this**.volume; } **public override void** Off() { //Off the TV } **public override void** On() { //On the TV } } **class** Program { **static void** Main(**string**[] args) { LGTV lg = **new** LGTV(); SonyTV sony = **new** SonyTV(); TV tv = lg; UniversalController controller = **new** GermanyController(tv); controller = **new** ChinaController(controller.tv);//Change Controller controller.On();//On the LG TV controller.tv = sony;//Reprogram the controller to control sony tv controller.On();//Will on the Sony TV Console.ReadKey(); } }} |