

ASSIGNMENT 1: Translate the following text from English to Serbian. Internals Class Association

Many object types are related to one another in some way. For example, a computer object has a processor, software, an operating system, active processes, and so on. WMI lets providers construct an association class to represent a logical connection between two different classes. Association classes associate one class with another, so the classes have only two properties: a class name and the Ref modifier. The following output shows an association in which the Event Log provider's MOF file associates the Win32_NTLogEvent class with the Win32_ComputerSystem class. Given an object, a management application can query associated objects. In this way, a provider defines a hierarchy of objects.

```
[dynamic: ToInstance, provider("MS_NT_EVENTLOG_PROVIDER"): ToInstance, EnumPrivileges{"SeSecurityPrivilege"}: ToSubClass, Locale(1033): ToInstance, UUID("{8502C57F-5FBB-11D2-AAC1-006008C78BC7}"): ToInstance, Association: DisableOverride ToInstance ToSubClass]
```

```
class Win32_NTLogEventComputer
{
[key, read: ToSubClass] Win32_ComputerSystem ref Computer;
[key, read: ToSubClass] Win32_NTLogEvent ref Record;
};
```

Figure 4-20 shows the WMI Object Browser (another tool that the WMI Administrative Tools includes) displaying the contents of the CIMV2 namespace. Windows system components typically place their objects within the CIMV2 namespace. The Object Browser first locates the Win32_ComputerSystem object instance ALEX-LAPTOP, which is the object that represents the computer. Then the Object Browser obtains the objects associated with Win32_ComputerSystem and displays them beneath ALEX-LAPTOP. The Object Browser user interface displays association objects with a double-arrow folder icon. The associated class type's objects display beneath the folder.

You can see in the Object Browser that the Event Log provider's association class Win32_NTLogEventComputer is beneath ALEX-LAPTOP and that numerous instances of the Win32_NTLogEvent class exist. Refer to the preceding output to verify that the MOF file defines the Win32_NTLogEventComputer class to associate the Win32_ComputerSystem class with the Win32_NTLogEvent class. Selecting an instance of Win32_NTLogEvent in the Object Browser reveals that class's properties under the Properties tab in the right-hand pane.

Microsoft intended the Object Browser to help WMI developers examine their objects, but a management application would perform the same operations and display properties or collected information more intelligibly.

EXPERIMENT: Using WMI Scripts to Manage Systems

A powerful aspect of WMI is its support for scripting languages. Microsoft has generated hundreds of scripts that perform common administrative tasks for managing user accounts, files, the registry, processes, and hardware devices. The Microsoft TechNet Scripting Center Web site serves as the central location for Microsoft scripts. Using a script from the scripting center is as easy as copying its text from

your Internet browser, storing it in a file with a .vbs extension, and running it with the command `cscript script.vbs`, where “script” is the name you gave the script. Cscript is the command-line interface to Windows Script Host (WSH).

Here’s a sample TechNet script that registers to receive events when Win32_Process object instances are created, which occurs whenever a process starts, and prints a line with the name of the process that the object represents.

ASSIGNMENT 2

The aim of the second assignment is to translate a mathematical (theoretical) text from English into Serbian, while preserving technical terminology and logical structure of proofs.

SOURCE

Terence Tao – Analysis
pp. 94–97

TEXT FOR TRANSLATION

Lemma 4.2.3.

The sum, product, and negation operations on rational numbers are well-defined, in the sense that if one replaces a/b with another rational number a'/b' which is equal to a/b , then the output of the above operations remains unchanged, and similarly for c/d .

Proof. We just verify this for addition; we leave the remaining claims to Exercise 4.2.2.

Suppose $a/b = a'/b'$, so that b and b' are non-zero and $ab' = a'b$.

We now show that:

$$a/b + c/d = a'/b' + c/d$$

By definition, the left-hand side is $(ad + bc)/bd$ and the right-hand side is $(a'd + b'c)/b'd$, so we have to show that:

$$(ad + bc)b'd = (a'd + b'c)bd$$

which expands to:

$$ab'd^2 + bb'cd = a'bd^2 + bb'cd$$

But since $ab' = a'b$, the claim follows. Similarly if one replaces c/d by c'/d' .

We note that the rational numbers a/b behave in a manner identical to the integers a :

$$(a/1) + (b/1) = (a + b)/1$$

$$(a/1) \times (b/1) = (ab)/1$$

$$-(a/1) = (-a)/1$$

Also, $a/1$ and $b/1$ are only equal when a and b are equal. Because of this, we will identify a with $a/1$ for each integer a :

$$a = a/1$$

The above identities then guarantee that the arithmetic of the integers is consistent with the arithmetic of the rationals.

Thus just as we embedded the natural numbers inside the integers, we embed the integers inside the rational numbers. In particular, all natural numbers are rational numbers; for instance 0 is equal to $0/1$ and 1 is equal to $1/1$.

Observe that a rational number a/b is equal to $0 = 0/1$ if and only if $a \times 1 = b \times 0$, i.e. if the numerator a is equal to 0 .

Thus if a and b are non-zero then so is a/b .

We now define a new operation on the rationals: reciprocal.

If $x = a/b$ is a non-zero rational (so that $a, b \neq 0$), then we define the reciprocal x^{-1} of x to be:

$$x^{-1} := b/a$$

It is easy to check that this operation is consistent with equality: if two rational numbers a/b and a'/b' are equal, then their reciprocals are also equal.

We however leave the reciprocal of 0 undefined.

Proposition 4.2.4 (Laws of algebra for rationals).

Let x, y, z be rationals. Then the following laws of algebra hold:

$$x + y = y + x$$

$$(x + y) + z = x + (y + z)$$

$$x + 0 = 0 + x = x$$

$$x + (-x) = (-x) + x = 0$$

$$xy = yx$$

$$(xy)z = x(yz)$$

$$x \cdot 1 = 1 \cdot x = x$$

$$x(y + z) = xy + xz$$

$$(y + z)x = yx + zx$$

If x is non-zero, we also have:

$$x \cdot x^{-1} = x^{-1} \cdot x = 1$$

Remark 4.2.5.

The above identities assert that the rationals \mathbb{Q} form a field.

Proof (sketch).

One writes $x = a/b$, $y = c/d$, $z = e/f$ for integers a, c, e and non-zero integers b, d, f , and verifies each identity using algebra of integers.

We only prove associativity of addition:

$$(x + y) + z = x + (y + z)$$

Left-hand side:

$$\begin{aligned} (x + y) + z &= ((ad + bc)/bd) + (e/f) \\ &= (adf + bcf + bde)/bdf \end{aligned}$$

Right-hand side:

$$\begin{aligned} x + (y + z) &= (a/b) + ((cf + de)/df) \\ &= (adf + bcf + bde)/bdf \end{aligned}$$

Thus they are equal.

Other identities are similar.

We can now define the quotient x/y of two rational numbers ($y \neq 0$) by:

$$x/y := x \times y^{-1}$$

ASSIGNMENT 3: : Please translate the following text into Serbian.

The excerpt is taken from Teppo's story *Lost Technique of Blackmail*.

Using the stopdrops as a way to send anonymous messages had been my idea. It had labeled me with a Director tag, and until the Systemic Introspect & Reorganization, I had been in charge of security for InterCore Express. After that, well, I fared better than a lot of people at ICE in that I still had a job, but with the i3Cee's kinder, gentler approach to corporate intrigue (read: none), the ROI of a fully staffed Security Directorate didn't pass budget audit. SecD got broken up—most went to SysAdmD, the knuckle-draggers given new uniforms and new offices (EnforD), and me and a few others were downgraded to

desk jobs. I went from “Director” to “Theorist,” and had a few turns to really sink into a never-ending depression, a hole where I could theorize all I liked.

I had a SysAdmD Section Manager, who really didn’t know what to do with me, and I was pretty sure he was hoping that I would EOE voluntarily, saving him the headache of doing my PIPE every turn. I wasn’t about to give him the satisfaction. He got back at me by never bothering to R & U any of my GPARs. It’s a very unfulfilling relationship.

Which explains why I found myself leaving the office and heading out into the field to investigate the mysterious package. I should have walked it over to EnforD and let them go hit people, but that would have taken the matter out of my hands. Plus there was the issue of the stopdrops. Eventually, a doc audit would bring up the whole history of their use, and my Section Monkey would be thrilled to find my tag all over the documentation. It’d be all the excuse he’d need to WTF me.

I went Out of Office. As much as I hated that three square, it was mine, and I had been there a long time. It’s funny what you’ll fight to keep.

Depot 12-B4 was still inRing, next to a Baskin-Robbins Emporium 31 on the Malachite Layer. I took an express ’tubebus, and walked the few clicks from the depot. It was still ante-meridiem and the reflected sunlight wasn’t too bad.

The Ring circled the planet like a lopsided halo, cleaving to the ecliptic. The outer edge was bubbled with a couple thousand climatologies where brain trusts kept trying to replicate moss and lichens in an artificial environment. InRing was home to humanity and we sprawled across every meter of space. By design, of course, regardless of the GoogleTube PR claim to the contrary.

I wasn’t quite sure why they still maintained the conceit that the Ring was meant as a data structure and not as a habitat. Old corporate habits, I suppose, but after the GoogleTube Infrastructure Accords, it was hard to believe they hadn’t planned for this possibility. Especially after the white paper by the pair of GoogleTube Extrapolationists was leaked. Sure, they had been ostracized from campus for writing the document, but when your corporate mandate says you never delete anything, it gets hard for the rest of the world to believe you wouldn’t actually use your own data. Even the theoretical kind.

Anyway, the GTI Accords opened up the Ring to the rest of the CorCongloms and over the next couple of clocks, the Ring went from a pristine packet landscape to a population density of a thousand per. The Retail Interregnum cleaned house, so to speak, and in the resulting economic vacuum, the SIX moved in.

Basing their dispersal theory on the New Modality of the Chicago School Theory of Economic Rapture, the SIX remodeled the Ring into an economic web that took advantage of the population density by maximizing isolation variables while pushing separation anxiety to nearly zero. It was all high throughput packet flow—1PB/f optimization to each node cluster, delivering every sort of digital signal that a body could desire (for everything that was still meatspace based, there was InterCore Express, the official package delivery service of the Ring).