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1. 12-23-2008 [#1](#)
   [Officer Tibbles](#)
   ○

   Wire Sofaking　〔WM REGISTERED〕　 [Officer Tibbles's Avatar](#)
   ───

   Join Date
   　　　Aug 2008
   Location
   　　　San Diego, Kalifornien
   Posts
   　　　508

Logic For Dummies

Introduction

This tutorial is design to teach you how to "Think" wire and not "Build" wire. What I mean my this is that you should be able to create your own contraptions and code based on logic, rather than copying down instructions on how to build that turret you want.

This is a novice guide that will teach beginners how to use the most of your brain to build machines and devices on your own. Nevertheless, this is a good guide for anybody.

Definition

As defined by Wikipedia,

Logic is the study of the principles of valid demonstration and inference. Logic is a branch of philosophy, a part of the classical trivium.
In layman's terms, it is the process of thought that solves problems and make's us think to do before we act.

Terminology

Theorem: A statement that is true in all situations that pertain to it
Circularity: Another word's definition can not be used in a definition. (For Example,
Def. Chocolate Chip Cookie can not be, a cookie with chocolate in it. It has to something like, a soft dough pastry that includes chocolate chips within it's structure.)
Statement: A logic sentence

Principles

Form ~ Almost all of logic is based in form. Structure is the key to logic and is pretty much required for it to work. There are some forms of non-formal logic that include Informal Logic, Symbol Logic, and Mathematical Logic (Which is pretty much Symbolic Logic)

Consistency ~ No Theorems have an effect on another Theorem
Soundness ~ All Statements are true
Completeness ~ No True statement can be used to prove a system. (Circularity)

Statements

Conditional
Code:

```
If P, Then Q
```

P is an action, like You live in San Diego.
Q is a consequence, like You like Mexican food.

With that said, it flows together like this.
Code:

```
If you live in San Diego, then you like Mexican food.
```

Converse
The same as a condition, but in reverse

Code:

```
If you like Mexican food, then you live in San Diego.
```

Even if the converse is true, it's result has no affect of whether the Conditional is true or false, but does ultimately prove the statement false.

*Remember, Conditional is not being referred to as the "Conditional Statement", but as a PART of the Statement. <- Clarification

In order for a statement to be true, both the Conditional and the Converse MUST be true.

Here's some advanced statements.

Contrapositive

Code:

```
If NOT P, Then NOT Q
```

With that said, it would look something like this

Code:

```
If you DON'T live in San Diego, you DON'T like Mexican food.
```

This too does not have to be true, it's just a way of thought.

<center>**Wiremod**</center>

Just about every bit of wiremod is made of, if not all, Logic.

Almost all of wire consists of this structure.

Code:

```
Take "A", Preform fuction "B":: Output "C"
```

In context, you take the Bearing of the target, add 30, then output (Bearing+30) to make an object circle around that target.

For use in most of the Indicator and Physics parts of wire, they use a On / Off function.

Code:

```
If A is equal to 1, Then the lamp will turn On.
```

Using what we learned before, we can conclude that,

Code:

```
If the lamp is On, Then A is equal to 1.
```

And using the Contrapostive, we can ultimately say that

Code:

```
If A DOES NOT equal 1, Then the Lamp WILL NOT be On.
```

Gates

Gates use a similar form of logic, that is not quite If, Then.

Gates use a form where you take Cookie "A", Do something to it to make it better, then output Cookie "B".

If you were to have an add chip, you would take the input of A, add it to Input B(And to how ever many you Input) , then outputs the total answer.

All gates (Except CPU and Expression) use this form.

Expression 1
Expression one uses this exact form of Logic, along with some other functions like Assignment.

Expression follows this form.
*-> is the same as Then.

Code:

```
If A = B -> C = D;
```

Or using the example I used before.

Code:

```
I@ A
O@ LampOn
#This is the Conditional
If A == 1 -> LampOn = 1; #Remember to use a semicolon (;) to end your conditionals.

#This is the use of a Contrapositive to make sure the light is never on when A is not 1
If A != 1 -> LampOn = 0; # != means DOES NOT equal.
```

Expression 2
Expression 2 uses the same form of Logic as E1, but with a different Syntax. A Syntax is a form of writing, to say.

E2 uses the form of
Code:

```
if(A==1) {B=C}
```

The first part of if(A==1), that is essentially the same as P.
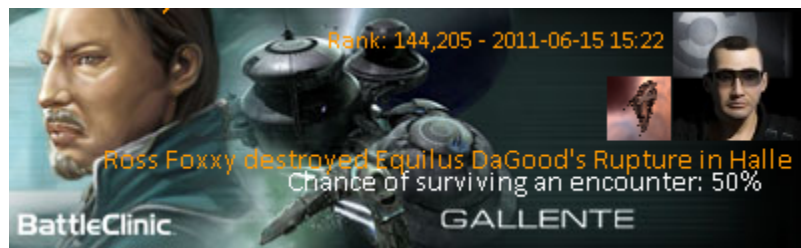The later part of {B=C} is the same as Q.

So

Code:

```
if(P) {Q}
```

Post Script

This tutorial is not complete and will be added too as time goes by. Feel free to post anything that you wish to be added, and I will work it in. Especially the Wiremod part. It is late and this is all I could come up with at the momemt.

Last edited by Officer Tibbles; 12-24-2008 at 01:17 PM.

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2. 12-23-2008 #2

chiss
○

Wirererer [WM REGISTERED] ▌ chiss's Avatar

Join Date
        Feb 2008
Posts
        205

Re: Logic For Dummies

Oh god this reminds me of a terrible first lecture i had in Mathematics for Computer Science.... D:

🖼 ▣ 🌀 🔲 Reply With Quote Reply With Quote

3. 12-24-2008 #3
    Pyro-Fire
    ○

Wire Weeaboo [WM WM HELPER]
[WM GLOBAL MOD] ▌▌ Pyro-Fire's Avatar

Join Date
        Aug 2007
Location
        WA, Australia
Posts
        1,423

Re: Logic For Dummies

if you actually intended on this being targeted for dummies, you wouldn't use such complex sentences that don't even make sense to me.

after reading this over a few times:
Neither of these have to be true, but the Converse's True/False DOES NOT affect the overall truth of the statement.
i still don't understand what it means, or what you are referring to.

Last edited by Pyro-Fire; 12-24-2008 at 12:51 AM.

Want to learn Japanese?

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4. 12-24-2008 #4
Free Fall

○

General Purpose Madman   WM   WM HELPER

WM   GLOBAL MOD

WM   REGISTERED   Free Fall's Avatar

Join Date
    Dec 2007
Location
    Got digitalized and now lives in his PC's RAM
Posts
    286

Re: Logic For Dummies

I think what this sentence means, is that the result of the Converse doesn't matter at all for the original statement. So even if the Converse is true, that doesn't mean the original Conditional has to be true too.

Needz moar Lua

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5. 12-24-2008 #5
Pyro-Fire

○

Wire Weeaboo   WM   WM HELPER

WM   GLOBAL MOD   Pyro-Fire's Avatar

Join Date
    Aug 2007
Location
    WA, Australia
Posts
    1,423

Re: Logic For Dummies

..but in his example, it is true, nor can i think of a situation where it is different from the original statement.

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6. 12-24-2008 #6
Officer Tibbles
○

Wire Sofaking WM REGISTERED ○ Officer Tibbles's Avatar

Join Date
        Aug 2008
Location
        San Diego, Kalifornien
Posts
        508

Re: Logic For Dummies

📖 Originally Posted by **Free Fall** ▶
I think what this sentence means, is that the result of the Converse doesn't matter at all for the original statement. So even if the Converse is true, that doesn't mean the original Conditional has to be true too.
100% absolutely true

Sorry if it doesn't come off as being for "Dummies", I tried to simplify this the best that I could.

Thanks for pointing that out, I will revise.

And, Pyro-Fire

..but in his example, it is true, nor can i think of a situation where it is different from the original statement.
And my example is

If you wear tight pants, then you ride a skateboard.
Umm girls that don't ride skateboards, wear tight pants most of the time?

And please don't be sarcastic if your trying to help me.

Last edited by Officer Tibbles; 12-24-2008 at 01:08 AM.

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7. 12-24-2008 #7
Bull
○

Spucatum Tauri   WM   WM HELPER
WM   GLOBAL MOD   🟩🟩🟩🟩🟩🟩🟩 Bull's Avatar

Join Date
    Jun 2008
Location
    Finland
Posts
    3,362

Re: Logic For Dummies

In my humble opinion:

I was assuming it would teach how to use wire.
Now you only throw a lot of difficult words at the reader.

Use simple stuff to explain what you mean.
With a skateboard and your pants isn't really close to the subject.

A good tutorial should have useful examples.
After reading this the reader hasn't learned anything practical.
You don't need to know the names like Theorem, Circularity.

Start with simple stuff like a lamp and a button, explain the logic behind that.
In simple language

Explain how you should think using wire.

That were mine two cents.

My signature has a point.
  💬 Originally Posted by **Squeakyneb** ⏩
when l3ulletje says do it, do it.
That 😊
The Great Report Button Quiz.

Reply With Quote Reply With Quote

8. 12-24-2008 #8
   xshadow2468
   ○

   Wire Amateur   WM   REGISTERED   🟩 xshadow2468's Avatar

Join Date
    Sep 2008
Posts
    37

Re: Logic For Dummies

lol @ if you skateboard you wear tight pants

92% of teens have moved onto rap. If you are part of the 8% that still listen to real music, copy and paste this into your signature.(Metalcore ftw)

IGN: Pillsbury 🙂

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---

9. 12-24-2008 #9
Officer Tibbles
○

Wire Sofaking   [WM REGISTERED]   ❙ Officer Tibbles's Avatar

Join Date
Aug 2008
Location
San Diego, Kalifornien
Posts
508

Re: Logic For Dummies

📖 Originally Posted by **l3ulletje** ▣
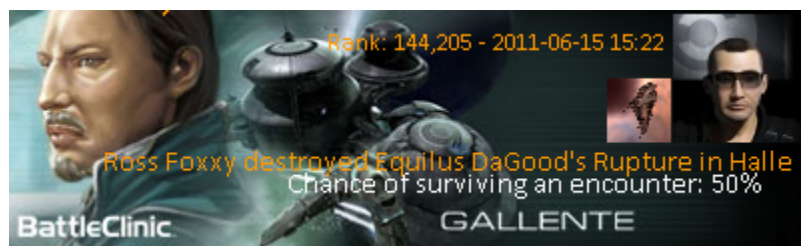Explain how you should think using wire.
I actually intended to teach the reader to use Logic to "Think" wire, not build it.

I love your suggestions and I have added them.

Please take note that the first part under "Introduction" is to teach the reader Logic and nothing to do with Wiremod.

The later part titled "Wiremod" is to tie the knot between Wire and real life Logic.

With that said, I will try to tone down the vocabulary. 🙂

Reply With Quote **Reply With Quote**

---

10. 12-24-2008 #10
Bull
○

Spucatum Tauri [WM] [WM HELPER]
[WM] [GLOBAL MOD] ▪ ▪ ▪ ▪ ▪ ▪ ▪ [Bull's Avatar](#)

Join Date
    Jun 2008
Location
    Finland
Posts
    3,362

Re: Logic For Dummies

  ❝ Originally Posted by **Officer Tibbles** ▣

__Definition__
As defined by Wikipedia,

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Def. Chocolate Chip Cookie can not be, a cookie with chocolate in it. It has to something like, a soft dough pastry that includes chocolate chips within it's structure.)
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Consistency ~ No Theorems have an effect on another Theorem
Soundness ~ All Statements are true
Completeness ~ No True statement can be used to prove a system. (Circularity)
In my humble opinion:
I think you should get rid of that whole part for now.
It adds nothing and only scares your reader away.
As example:

I want to learn you how to pick an apple from an appletree.
Then I don't start to cover you with the scientific terms of different types of ladders, the right angle of the ladder and the latin name for apple tree.

It won't bring your student any closer to actually getting up the stairs and pick the apple.

But I explain how to do it and why..
Why does the light go on?
Why does the button need to be toggled?
How does the lamp communicate with the button?

My signature has a point.

❝ Originally Posted by **Squeakyneb** ▶

when l3ulletje says do it, do it.

That 😊

The Great Report Button Quiz.

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