‘Mision
TIC 2022›

Universidad de Caldas

Worksheet 1.7.1

Use the words below to complete each of the statements. After, think about why we use the words "IF" and "THEN".

then I would fly over the mountains. then it will boil. then you will smell bad. then you will get a suntan. then I would buy a yacht. then I would run away. then you will see the Eiffel Tower. then I would see a panda. then I would go into space. then you will get stronger.

1. If you sunbathe,

2. If you don´t take a shower,

3. If you lift weights,

4. If you go to France,

5. If you heat water,

6. If I had wings,

7. If I went to China,

8. If I saw a ghost,

9. If I had a lot of money,

10. If I were an astronaut,

Worksheet 1.7.2

Learning new vocabulary through Antonyms!

Find the Antonyms of these words in order to discover the words we need to practice before today's reading.

1. Generalize: specify
2. Inside: outside
3. Keep: substitute
4. Confound: clarify
5. Falsity: truth
6. General: particular
7. Division: combination
8. Antecedent: result
9. Late: early
10. Cause: efect

Universidad de Caldas

Worksheet 7.3

Read the paragraph, then try to figure out the meaning of the highlighted words without using the dictionary.

Boolean algebra is a division of mathematics that **deals with** operations on logical values and incorporates binary variables. Boolean algebra **traces** its origins to an 1854 book by mathematician George Boole.

The **distinguishing** factor of Boolean algebra is that it deals only with the study of binary variables. Most commonly Boolean variables are presented with the possible values of 1 ("true") or 0 ("false"). Variables can also have more **complex** interpretations. Boolean algebra is also **known** as binary algebra.

To deal with: To be about or be on the subject of something

To Trace: To find the origin of something.

Distinguishing: A mark or feature that makes someone or something different from similar people or things.

Complex: Difficult to understand or find an answer to because of having many different parts.

Known: Someone or something familiar, generally understood or proven.

Now, read the definitions and match them to each word.

1. A mark or feature that makes someone or something different from similar people or things.
2. To be about or be on the subject of something.
3. To find the origin of something.
4. Someone or something familiar, generally understood or proven.
5. Difficult to understand or find an answer to because of having many different parts.

Worksheet 1.7.4

Read the following text highlight the words you don´t know and try to infer the meaning from the context without using a dictionary.

Boolean Algebra

Boolean Algebra is fundamental to the operation of software and hardware. If you are in IT, then Boolean Algebra is very important for you. Boolean Algebra is a form to formally specify, or describe, a particular situation or procedure. We use variables to represent elements of our situation or procedure. Variables can take one of only two values: **True** and **False**. So, for example, we have a variable **X** that represents "if it is raining outside or not". The value of **X** is:

- **True** if it is raining outside.
- **False** if it is not raining outside.

It is possible to substitute True and False with other values. When working with computers, True and False is often replaced with **1** and **0**.

Basic Operations

There are three basic operations. The result of an operation can only be **True** or **False**.

1. **AND**

The first operation is **AND**. So for example, I can say, "If it's hot outside **AND** I finished my work, then I will play soccer." To represent this in Boolean Algebra, I can say that:

- **x** represents *if it is hot outside or not*.
- **y** represents *if I finished my work or not*.
- **z** represents *if I play soccer.*

x AND y = z

Let´s look at the representation of this operation using a Truth table. A truth table is a list of all the possible combinations of inputs and outputs.

X	Y	Result
False	False	False
True	False	False
False	True	False
True	True	True

2. **OR**

OR means that if one of the two variables is **True** then the result is **True**. So for example, I can say that "I will get home early if I finish work early **OR** the traffic is good". To represent this in Boolean Algebra, I can say that:

- **x** represents *if finish work early*.
- **y** represents *if the traffic is good*.
- **z** represents *if I get home early*.

x OR y = z

X	Y	Result
False	False	False
True	False	True
False	True	True
True	True	True

3. Not

Not has the effect of changing the value of a variable to the opposite. For example, I can say: "If I am not full, I will eat a cake." To represent this in Boolean algebra, I will write:

- **d** represents *if I am full*
- **e** represents *if I eat a cake*
- the variable **d** currently has a value of **True** then
- the expression **not d** has a result of **False**

And as a truth table:

X	Result
True	False
False	True

Worksheet 1.7.5

WRAP-UP

Give three examples of the three basic operations: one for AND, one for OR, one for NOT.

Think of real-life situations and apply Boolean Algebra – similar to the text.

You can work by yourself or with your classmates, using a collaborative tool, such as:

AND

if i have money AND if the weather is good I will travel

- **x** represents *if I* have money or not.
- **y** represents *if the weather is good or not.*
- **z** represents *If I travel.*

AND

If i leave of my house early AND the traffic is relax i will arrive to my work on time

OR

if i learn about programming or if learn graphic designing i will get the job related to IT

- **x** represents *if I learn about programming.*
- **y** represents *if I learn about graphic designing.*

- **z** represents *If I get the job related to IT.*

OR

If there is water OR if there is juice, i will Quench thirst

NOT

If i NOT eat the breakfast before 8 am, i will have a lot hungry later

NOT

if it NOT raining in the afternoon, we will go for a walk

- **x** represents *If it is raining in the afternoon.*
- **Y** represents *if we go for a walk.*
- the variable **x** currently has a value of **True** then
- the expression **not x** has a result of **False**

Worksheet 7.6

SELF-EVALUATION

Fill out the following self-evaluation

1. Entiendo cómo puedo tratar de entender el significado de las nuevas palabras sin consultar el diccionario.

   Yes 😃   **Maybe** 😐   **No** 😟

2. La estrategia de "inferring" me ayuda a entender el texto que leo mejor.

   Yes 😃   **Maybe** 😐   **No** 😟

3. Pude entender qué es Boolean Algebra.

   Yes 😃   **Maybe** 😐   **No** 😟