

CG3 PRACTICAL EXERCISE 2

For this exercise, we will use VISL's CG Lab: <https://visl.sdu.dk/cglab.htm>.

Given the following sentences in red with common mistakes in English made by Spanish speakers, and other correct sentences in black:

*Are you **agree** with me?*

*I **am** completely **agree** with you.*

*They **aren't** **agree** with your theory*

*It **is** the first time you **agree** with me.*

*Your father **isn't** going to **agree** to what they are saying.*

*I **am** sure you will **agree** once I have explained the full context.*

→ ADD(@AGREEMENT-MISTAKE) TARGET ("be" V) IF (*1 ("<agree>") BARRIER (V));

This rule Adds the tag "@AGREEMENT-MISTAKE" in the TARGET "be V" if in any cohort to the right there is "agree", and stop scanning if you find another verb.

*I am **taking** a coffee.*

*I **took** a couple of beers yesterday.*

*Let's go out and **take** a drink.*

*I **took** the decision not to **drink** anymore.*

*Do you **take** sugar in your coffee?*

*She **took** a sip of whisky.*

*We were **taken** to have a drink.*

*She was finally free to **take** an official coffee break.*

ADD(@TAKE-MISTAKE) TARGET ("take" V) IF (1 (ART) LINK 1 (<drink>)) ;

This rule Adds the tag "@TAKE-MISTAKE" in the Target "take v" if the next cohort to the right is an article with a noun referring a drink.

ADD(@TAKE-MISTAKE) TARGET ("take" V) IF (1 (ART) LINK 1 (<amount>) LINK 1 (PRP) LINK 1 (<drink>));

This rule Adds the tag "@TAKE-MISTAKE" in the TARGET "Take v" if the next cohort to the right is an article + quantitative det + personal pronoun + noun referring a drink.

*Will you help me **do** a cake?*

*I have **done** a lot of **mistakes** in my essay.*

*Now **do** you want any **cake** with that second cup of tea?*

*It **does** not include **mistakes** other than those occasioned by fraud.*

*She **did** not realise her **mistake**.*

→ LIST WITH_MAKE = "cake" "mistake";

→ ADD(@DO-MISTAKE) TARGET ("do" V) IF (*1 WITH_MAKE BARRIER (V));

This rule Adds the tag “O-MISTAKE” in the TARGET “do V” if any cohort to the right is an element of “with_make” and stop when a verb is found.

*I like **making** extreme **sports**.*

*We were going to **make** up a **sport** to see what he said.*

*Competitors could **make** use of all the excellent **sports** facilities throughout the Academy.*

LIST AJJ_N = ADJ N;

ADD(@MAKE-MISTAKE) TARGET ("make" V) IF (1 A/N LINK 1 (<sport>));

This rule Adds the tag “@SINCE-MISTAKE” in the TARGET “Make V” if there is an element from the list “AJJ_N” followed by the word “sport” or “sports”.

*I am here **since** an hour **ago**.*

*Euro Disney has been losing money **since** it opened eighteen months **ago**.*

ADD(@SINCE-MISTAKE) TARGET ("since") IF (*1 ("ago") BARRIER (v));

This rule Adds the tag “@SINCE-MISTAKE” in the TARGET “since” if any cohort to the right has the adverb “ago” and stops if it finds a verb.

*Can you **explain** me again, please?*

*Will you **listen** mum, please?*

*She didn't **say** me anything.*

LIST N_PERS = N PERS;

LIST TO_VERB = "explain" "listen" "say" ;

ADD(@MISSING-MISTAKE) TARGET TO_VERB IF (1 N_PERS);

This rule Adds the tag “@MISSING-MISTAKE” in the TARGET list “TO_VERB” if the next cohort to the right has any element from the list “N_PERS”

*Helen **has** 18 years old.*

*How many **years** do you **have**?*

*Its success **has** taken **years** of dedication to achieve.*

*How many **years** of experience do you **have**?*

ADD(@1YEAR-MISTAKE) TARGET ("have") IF (*1 ("year") BARRIER (V));

This rule Adds the tag “@YEAR-MISTAKE” in the TARGET “have” if any cohort to the right has “year” and stop scanning if it finds a verb.

ADD(@2YEAR-MISTAKE) TARGET ("have") IF (-*1 ("year") BARRIER (N));

This rule Adds the tag “@2YEAR-MISTAKE” in the TARGET “have” if the next cohort to the left has “year” and stop scanning if it finds a noun.

*I **didn't** went out yesterday.*

*She **doesn't** goes to church.*

*What **did** you **ate** for dinner?*

ADD (@DID_MISTAKE) TARGET ("~~did~~") IF (*1 (V IMPF)) ;

ADD (@DID_MISTAKE) TARGET ("~~did_~~") IF (*1 (V IMPF)) ;

This rules Adds the Tag “@DID_MISTAKE” in the TARGET “did” if any cohort to the right has a verb in past tense.

ADD (@DID_MISTAKE) TARGET ("~~does_~~") IF (*1 (V PR 3S));

This rule Adds the Tag “@DID_MISTAKE” in the TARGET “does” if any cohort to the right has a present verb in 3s.

Develop a grammar to MAP the mistakes in parsed text. Of course, the grammar should not mark the mistakes in the correct sentences.²

- Add here both the **grammar** and the **output text**.
- **# Comment** the grammar rules, describing them, giving examples if needed...

```
1 DELIMITERS = "<$>" "<$!>" "<$?>" "<$\,>" "<$:>" "<$->" "<$>" "<$start>" "<$START>";
2 MAPPING-PREFIX = @;
3
4 SETS
5
6 LIST WITH_MAKE = "cake" "mistake";
7 LIST AJJ_N = ADJ N;
8 LIST N_PERS = N PERS;
9 LIST TO_VERB = "explain" "listen" "say";
10
11 CORRECTIONS
12
13 MAPPINGS
14
15 CONSTRAINTS
16 ADD (@DID_MISTAKE) TARGET ("<did>") IF (*1 (V IMPF));
17 ADD (@DID_MISTAKE) TARGET ("<did_>") IF (*1 (V IMPF));
18 ADD (@DID_MISTAKE) TARGET ("<does_>") IF (*1 (V PR 3S));
19 ADD (@MISSING-MISTAKE) TARGET TO_VERB IF (1 N_PERS);
20 ADD (@1YEAR-MISTAKE) TARGET ("have") IF (*1 ("year") BARRIER (V));
21 ADD (@2YEAR-MISTAKE) TARGET ("have") IF (*1 ("year") BARRIER (N));
22 ADD (@AGREEMENT-MISTAKE) TARGET ("be" V) IF (*1 ("<agree>") BARRIER (V));
23 ADD (@TAKE-MISTAKE) TARGET ("take" V) IF (1 (ART) LINK 1 (<drink>));
24 ADD (@TAKE-MISTAKE) TARGET ("take" V) IF (1 (ART) LINK 1 (<amount>) LINK 1 (PRP) LINK 1 (<drink>));
25 ADD (@DO-MISTAKE) TARGET ("do" V) IF (*1 WITH_MAKE BARRIER (V));
26 ADD (@MAKE-MISTAKE) TARGET ("make" V) IF (1 AJJ_N LINK 1 (<sport>));
27 ADD (@SINCE-MISTAKE) TARGET ("since") IF (*1 ("ago") BARRIER (v));
```

Compiled succesfully:

[Mon Jan 10 10:10:54 2022] cglab.cgi: CGI::param called in list context from /home/httpd/cgi-bin/cglab.cgi line 47, this can lead to vulnerabilities. See the warning in "Fetching the value or values of a single named parameter" at /usr/share/perl5/CGI.pm line 412.

```
"<are>"
    "be" <*> <nosubj> V PR -1/3S @AGREEMENT-MISTAKE ADD:22
"<you>"
    "you" PERS 2S/P NOM
"<agree>"
    "agree" <vq> <v-cog> V PR -3S
"<with>"
    "with" PRP
"<me>"
    "I" PERS 1S ACC
"<$?>"
    "?" PU <<< @PU

"<i>"
    "I" <*> PERS 1S NOM
"<am>"
    "be" V PR 1S @AGREEMENT-MISTAKE ADD:22
"<completely>"
    "completely" <ly> <ADJ:complete+ly> ADV
```

"<agree>" "agree" <vq> <v-cog> V INF
 "<with>" "with" PRP
 "<you>" "you" PERS 2S/P ACC
 "<\$.>" "." PU <<< @PU
 "<they>" "they" <*> PERS 3P NOM
 "<are_>" "be" <sam-> V PR -1/3S @AGREEMENT-MISTAKE ADD:22
 "<_n't>" "not" <-sam> ADV
 "<agree>" "agree" <vq> <v-cog> V INF
 "<with>" "with" PRP
 "<your>" "you" <poss> <det> PERS 2S/P GEN
 "<theory>" "theory" <sem-c> <ac-cat> <def> N S NOM
 "<\$.>" "." PU <<< @PU
 "<it>" "it" <*> PERS NEU 3S NOM
 "<is>" "be" V PR 3S @AGREEMENT-MISTAKE ADD:22
 "<the>" "the" <def> ART S/P
 "<first>" "first" <num-ord> NUM
 "<time>" "time" <ac-cat> <temp> <per> <num+> <def> N S NOM
 "<you>" "you" PERS 2S/P NOM
 "<agree>" "agree" <vq> <v-cog> V PR -3S
 "<with>" "with" PRP
 "<me>" "I" PERS 1S ACC
 "<\$.>" "." PU <<< @PU
 "<your>" "you" <*> <poss> <det> PERS 2S/P GEN
 "<father>" "father" <Hfam> <def> <nhead> N S NOM
 "<is_>" "be" <sam-> V PR 3S
 "<_n't>" "not" <-sam> ADV
 "<going>" "go" <va+DIR> V PCP1
 "<to>" "to" INFM
 "<agree>" "agree" <vq> <v-cog> V INF
 "<to>" "to" PRP
 "<what>" "what" <rel> INDP S/P
 "<they>" "they" PERS 3P NOM
 "<are>" "be" V PR -1/3S
 "<saying>" "say" <vq> <v-cog> <speak> V PCP1
 "<\$.>" "." PU <<< @PU
 "<i>" "I" <*> PERS 1S NOM
 "<am>" "be" V PR 1S
 "<sure>" "sure" <jpsych> ADJ POS
 "<you>" "you" PERS 2S/P NOM
 "<will>" "will" V PR
 "<agree>"

"agree" <vq> <v-cog> V INF
 "<once>" "once" KS
 "<i>" "I" <*> PERS 1S NOM
 "<have>" "have" V PR -3S
 "<explained>" "explain" <vq> <v-cog> V PCP2 AKT
 "<the>" "the" <def> ART S/P
 "<full>" "full" ADJ POS
 "<context>" "context" <sem-r> <sit> <def> N S NOM
 "<\$.>" "." PU <<< @PU
 "<i>" "I" <*> PERS 1S NOM
 "<am>" "be" V PR 1S
 "<taking>" "take" <v.contact> <v.contact> V PCP1 @TAKE-MISTAKE ADD:23
 "<a>" "a" <indef> ART S
 "<coffee>" "coffee" <col> <drink> <idf> N S NOM
 "<\$.>" "." PU <<< @PU
 "<i>" "I" <*> PERS 1S NOM
 "<took>" "take" <v.contact> <v.contact> V IMPF @TAKE-MISTAKE ADD:24
 "<a>" "a" <indef> ART S
 "<couple>" "couple" <HH> <amount> <idf> <nhead> N S NOM
 "<of>" "of" PRP
 "<beers>" "beer" <drink> <idf> N P NOM
 "<yesterday>" "yesterday" <atemp> ADV
 "<\$.>" "." PU <<< @PU
 "<let_>" "let" <sam-> <*> V IMP
 "<_s>" "we" <-sam> PERS 1P ACC
 "<go>" "go" <move> V INF
 "<out>" "out" <adir> ADV
 "<and>" "and" KC
 "<take>" "take" <v.contact> <v.contact> V INF @TAKE-MISTAKE ADD:23
 "<a>" "a" <indef> ART S
 "<drink>" "drink" <drink> <idf> N S NOM
 "<\$.>" "." PU <<< @PU
 "<i>" "I" <*> PERS 1S NOM
 "<took>" "take" <v.contact> <v.contact> V IMPF
 "<the>" "the" <def> ART S/P
 "<decision>" "decision" <act-c> <def> N S NOM
 "<not>" "not" ADV
 "<to>" "to" INFM
 "<drink>" "drink" <vtk+ADJ> V INF
 "<anymore>" "anymore" ADV
 "<\$.>" "." PU <<< @PU

"<do>" "do" <*> <v.contact> V PR -3S
 "<you>" "you" PERS 2S/P NOM
 "<take>" "take" <v.contact> <v.contact> V INF
 "<sugar>" "sugar" <food> <cm-chem> <second> <idf> N S NOM
 "<in>" "in" PRP
 "<your>" "you" <poss> <det> PERS 2S/P GEN
 "<coffee>" "coffee" <col> <drink> <def> N S NOM
 "<\$?>" "?" PU <<< @PU
 "<she>" "she" <*> <fem> PERS FEM 3S NOM
 "<took>" "take" <v.contact> <v.contact> V IMPF
 "<a>" "a" <indef> ART S
 "<sip>" "sip" <act-d> <idf> <nhead> N S NOM
 "<of>" "of" PRP
 "<whisky>" "whisky" <drink> <idf> N S NOM
 "<\$.>" "." PU <<< @PU
 "<we>" "we" <*> PERS 1P NOM
 "<were>" "be" V IMPF -1/3S
 "<taken>" "take" <v.contact> <v.contact> V PCP2 PAS
 "<to>" "to" INFM
 "<have>" "have" V INF
 "<a>" "a" <indef> ART S
 "<drink>" "drink" <drink> <idf> N S NOM
 "<\$.>" "." PU <<< @PU
 "<she>" "she" <*> <fem> PERS FEM 3S NOM
 "<was>" "be" V IMPF 1/3S
 "<finally>" "finally" <ly> <ADJ:final+ly> ADV
 "<free>" "free" ADJ POS
 "<to>" "to" INFM
 "<take>" "take" <v.contact> <v.contact> V INF
 "<an>" "a" <indef> ART S
 "<official>" "official" <jpert> ADJ POS
 "<coffee>" "coffee" <col> <drink> <compl> <idf> N S NOM
 "<break>" "break" <food> <comp2> <idf> N S NOM
 "<\$.>" "." PU <<< @PU
 "<will>" "will" <*> V PR
 "<you>" "you" PERS 2S/P NOM
 "<help>" "help" V INF
 "<me>" "I" PERS 1S ACC
 "<do>" "do" <v.contact> <DL:bio> V INF @DO-MISTAKE ADD:25
 "<a>" "a" <indef> ART S

"<cake>"
 "cake" <food-c> <DL:bio> <idf> N S NOM
 "<\$?>"
 "?" PU <<< @PU
 "<i>"
 "I" <*> PERS 1S NOM
 "<have>"
 "have" <DL:bio> V PR -3S
 "<done>"
 "do" <v.contact> <DL:bio> V PCP2 AKT @DO-MISTAKE ADD:25
 "<a=lot=of>"
 "a=lot=of" <quant> DET S/P
 "<mistakes>"
 "mistake" <act-d> <sem-c> <DL:bio> <idf> N P NOM
 "<in>"
 "in" PRP
 "<my>"
 "I" <poss> <det> PERS 1S GEN
 "<essay>"
 "essay" <sem-r> <act> <DL:bio> <def> N S NOM
 "<\$.>"
 "." PU <<< @PU
 "<now>"
 "now" <*> <atemp> ADV
 "<do>"
 "do" <v.contact> <DL:bio> V PR -3S
 "<you>"
 "you" PERS 2S/P NOM
 "<want>"
 "want" <v.contact> <vtk+ADJ> <vtk+PCP2> V INF
 "<any>"
 "any" <quant> DET S/P
 "<cake>"
 "cake" <food-c> <DL:bio> <idf> <nhead> N S NOM
 "<with>"
 "with" PRP
 "<that>"
 "that" <dem> DET S
 "<second>"
 "second" <num-ord> NUM
 "<cup>"
 "cup" <con> <occ> <DL:bio> <def> <nhead> N S NOM
 "<of>"
 "of" PRP
 "<tea>"
 "tea" <drink> <Bbush> <DL:bio> <idf> N S NOM
 "<\$?>"
 "?" PU <<< @PU
 "<it>"
 "it" <*> PERS NEU 3S NOM
 "<does>"
 "do" <v.contact> V PR 3S
 "<not>"
 "not" ADV
 "<include>"
 "include" <DL:bio> V INF
 "<mistakes>"
 "mistake" <act-d> <sem-c> <DL:bio> <idf> <nhead> N P NOM
 "<other=than>"
 "other=than" PRP
 "<those>"
 "that" <dem> INDP P
 "<occasioned>"
 "occasion" <DL:bio> V PCP2 PAS
 "<by>"
 "by" PRP
 "<fraud>"
 "fraud" <act> <H> <DL:bio> <idf> N S NOM
 "<\$.>"
 "." PU <<< @PU
 "<she>"
 "she" <*> <fem> PERS FEM 3S NOM
 "<did>"
 "do" <v.contact> V IMPF
 "<not>"
 "not" ADV
 "<realise>"
 "realise" <v-cog> V INF
 "<her>"
 "she" <fem> <poss> <det> PERS FEM 3S GEN
 "<mistake>"

"mistake" <act-d> <sem-c> <def> N S NOM
"<\$.>"
"." PU <<< @PU

"<i>"
"I" <*> PERS 1S NOM

"<like>"
"like" <vtk+ADJ> <DL:sport> V PR -3S

"<making>"
"make" <v.contact> <vtk+N> <vtk+ADJ> <v.contact> <DL:sport> V PCP1 @MAKE-MISTAKE ADD:26

"<extreme>"
"extreme" <Labs> <DL:sport> <idf> <nhead> N S NOM

"<sports>"
"sport" <sport> <domain> <M:H> <DL:sport> <idf> N P NOM

"<\$.>"
"." PU <<< @PU

"<we>"
"we" <*> PERS 1P NOM

"<were>"
"be" <DL:sport> V IMPF -1/3S

"<going>"
"go" <va+DIR> <DL:sport> V PCP1

"<to>"
"to" INFM

"<make>"
"make" <DL:sport> V INF

"<up>"
"up" ADV

"<a>"
"a" <indef> ART S

"<sport>"
"sport" <sport> <domain> <M:H> <DL:sport> <idf> N S NOM

"<to>"
"to" INFM

"<see>"
"see" <vq> <v.contact> <vtk+ADJ> <DL:sport> V INF

"<what>"
"what" <interr> INDP S/P

"<he>"
"he" <masc> PERS MASC 3S NOM

"<said>"
"say" <vq> <v-cog> <speak> <DL:sport> V IMPF

"<\$.>"
"." PU <<< @PU

"<competitors>"
"competitor" <*> <H> <DL:sport> <idf> <nhead> N P NOM

"<could>"
"can" <DL:sport> V IMPF

"<make>"
"make" <v.contact> <vtk+N> <vtk+ADJ> <v.contact> <DL:sport> V INF

"<use>"
"use" <act> <P:f> <second> <DL:sport> <idf> <nhead> N S NOM

"<of>"
"of" PRP

"<all>"
"all" <quant> <nhead> DET S/P

"<the>"
"the" <def> ART S/P

"<excellent>"
"excellent" <Q:good> <DL:sport> ADJ POS

"<sports>"
"sport" <sport> <domain> <M:H> <DL:sport> <comp1> <first> <def> N P NOM

"<facilities>"
"facility" <Lh> <f-psych> <second> <comp2> <DL:sport> <def> N P NOM

"<throughout>"
"throughout" PRP

"<the>"
"the" <def> ART S/P

"<academy>"
"academy" <*> <inst> <DL:sport> <def> N S NOM

"<\$.>"
"." PU <<< @PU

"<i>"
"I" <*> PERS 1S NOM

"<am>"
"be" V PR 1S

"<here>"
"here" <aloc> ADV

"<since>"
"since" PRP @SINCE-MISTAKE ADD:27

"<an>"
"a" <indef> ART S

"<hour>" "hour" <dur> <per> <idf> N S NOM
"<ago>" "ago" ADV
"<\$.>" "." PU <<< @PU
"<euro=Disne>" "Euro=Disne" <*> <Proper> <heur> N S NOM
"<\$ℓ>"