```
1)
maximum/NN
signed/VBN
integer/NN
it is not an *integer* that has been *signed*
it is an *integer* with a *sign*
further, maximum is not a noun, it is an adjective.
so the correct answer is
maximum/JJ
signed/JJ
integer/NN
2)
a/DT
secret/NN
blending/VBG
algorithm/NN
An algorithm for blending.
Not an algorithm that is blending with something.
So the answer is:
a/DT
secret/JJ
blending/NN
algorithm/NN
3)
the/DT
hashing/VBG
process/NN
How about a noun?
is it a process that is hashing or a process for hashing?
it is a process for hashing.
So the correct annotation is
the/DT
hashing/NN
process/NN
4)
Update/VB
on/IN
Cracking/JJ
Theory/NN
is cracking an adjective? No. It isn't a theory that cracks.
So rule out adjective.
```

```
Is it a gerund (VBG) or a noun?
It isn't a theory that is cracking something.
It is a theory of/about cracking.
So cracking is a noun.
Update/VB
on/IN
Cracking/NN
Theory/NN
5)
for/IN
now/RB
we/PRP
will/MD
use/VB
that/IN
quoted/VBN
figure/NN
Here quoted is correctly identified as VBN, because
"the figure has been quoted" is its correct interpretation.
6)
a/DT
linear/JJ
brute/JJ
force/NN
attack/NN
is incorrect, *force* is not an entity but a characteristic here:
a/DT
linear/JJ
brute/JJ
force/JJ
attack/NN
it usually is written as: a linear brute-force attack
recursively/RB
hashing/VBG
a/DT
password/NN
here "hashing" is correctly identified as a present participle.
It is 'hashing' *something*, not 'hashing' *of something*.
8)
but/CC
targetted/VBN
attacks/NNS
on/IN
user/NN
```

data/NNS

It is not "attacks that have been targetted", but "attacks which are of the targetted kind".
targetted is a characteristic of *attack*.

but/CC
targetted/JJ
attacks/NNS
on/IN
user/NN
data/NNS

If it was "the targetted attack", then its correct annotation would be: $\begin{array}{c} \text{the/DT} \\ \text{targetted/VBN} \\ \text{attack/NN} \end{array}$

the attack that has been targetted [on something] as in the following example.

9) the/DT hashed/VBN password/NN

"the password that has been hashed" is correct.

10)
n/C NA
hashing/VBG
calculations/NNS

It is not "calculations that hash", but "calculations of hashing", so hashing is a NN.

n/C
hashing/NN
calculations/NNS

11)
that/IN
recursive/JJ
hashing/VBG
protects/VBZ

here "hashing" is a noun. Alternative form: that recursive hashings protect.

If it was "recursively/RB hashing/VBG protects", then it'd be a Gerund.

that/IN recursive/JJ hashing/NN

```
protects/VBZ
12)
Sorry/UH
,/,
but/CC
this/DT
question/NN
is/VBZ
not/RB
a/DT
duplicate/VB
Here *sorry* is used as an interjection, not an adjective as in "I am
sorry, but this question...".
It's used as "Sorry! I didn't see that you were on the phone."
Or as "Sorry? What was that? The phone cut out."
13)
@rmeador/USR
thanks/VBZ
,/,
but/CC
my/PRP$
point/NN
is/VBZ
that/IN
it should be
@rmeador/USR
thanks/UH
,/,
but/CC
my/PRP$
point/NN
is/VBZ
that/IN
14)
Thanks/VBZ
for/IN
your/PRP$
comments/NNS
is correctly annotated as Verb.
15)
I/PRP
do/VBP
mean/VB
plain/JJ
english/JJ
```

```
tables/NNS
yes/RB
./.
The sentence isn't "I do mean *yes* -- plain English tables."
It is "Yes, I do mean plain English tables."
I/PRP
do/VBP
mean/VB
plain/JJ
english/JJ
tables/NNS
yes/UH
./.
16)
your/PRP$
salting/VBG
algorithm/NN
an algorithm for salting, so "salting" is a noun.
It isn't an algorithm that is salting for it to be a Gerund.
your/PRP$
salting/NN
algorithm/NN
17)
a/DT
hashed/VBN
password/NN
This is correct. Because it's alternative interpretation is "a password
that has been hashed".
18)
emulated/JJ
prepared/JJ
statements/NNS
which prepared statements? emulated ones.
It is: "prepared statements that have been emulated". So the correct
annotation is:
emulated/VBN
prepared/JJ
statements/NNS
19)
the/DT
compiled/JJ
statement/NN
```

```
the statement that has been compiled. *compiled* is not a characteristic
of statement.
the/DT
compiled/VBN
statement/NN
20)
use/VB
bound/VBN
parameters/NNS
parameters that have been bound.
parameters that are bound.
The later is correct.
use/VB
bound/JJ
parameters/NNS
21)
In/IN
the/DT
absence/NN
of/IN
rounding/VBG
errors/NNS
errors that round??? NO! So no VBG.
Is it an adjective or a noun?
In/IN
the/DT
absence/NN
of/IN
rounding/NN
errors/NNS
"errors about rounding"
So it is a noun more than it could have been an adjective.
22)
the/DT
signing/NN
credentials/NNS
the credentials for signing.
23)
wo/MD
n't/RB
have/VB
```

unlocked/VBN

```
keychain/NN
a keychain that has been unlocked.
24)
If/IN
a/DT
DB/NN
supports/VBZ
materialized/VBN
views/NNS
If a DB supports views that have been materialized... this is incorrect.
materialized is a characteristic of the views.
which views must the DB support? materialized views.
If/IN
a/DT
DB/NN
supports/VBZ
materialized/JJ
views/NNS
25)
Great/JJ
./.
This is more an expression of content regarding something. So it is not
an adjective (as in "great job").
It's an interjection.
Great/UH
./.
26)
No/DT
,/,
you/PRP
probably/RB
did/VBD
n't/RB
./.
It isn't a determiner: it isn't "no coffee". It is a modifier of the verb
did.
No/RB
,/,
you/PRP
probably/RB
did/VBD
n't/RB
```

./.

```
27)
the/DT
chaining/VBG
expression/NN
the expression that chains, or the expression for chaining.
It is the former, so this is fine.
28)
chained/JJ
functions/NNS
calls/NNS
is it function calls that have been chained, or is it function calls of
the type chained?
It is the former. So,
chained/VBN
functions/NNS
calls/NNS
29)
although/IN
chaining/VBG
function/NN
calls/NNS
does/VBZ
introduce/VB
Here chaining has been correctly annotated as a present participle (VBG).
30)
the/DT
chaining/VBG
expression/NN
Again, this is correct.
31)
see/VB
it/PRP
live/VBP
It's interpreting it as *live* life. This is incorrect.
see/VB
it/PRP
live/JJ
32)
a/DT
function/NN
call/NN
introduces/VBZ
```

a/DT sequenced/VBN before/IN relationship/NN of/IN the/DT function/NN calls/VBZ postfix/NN expression/NN how to interpret the following: "a sequenced before relationship". i) *before* is not a preposition. is it is a noun? No. "a before relationship" is incorrect. ii) in "a sequenced relationship", is "sequenced" a noun or an adjective or a past participle (VBN)? A JJ: which type of "relationship"? sequenced. No A NN: a relationship about sequencing. No A VBN: "a relationship" that has been "sequenced"? Yes iii) *before* then is an adverb. a/DT function/NN call/NN introduces/VBZ a/DT sequenced/VBN before/RB relationship/NN of/IN the/DT function/NN calls/NNS postfix/NN expression/NN 33) the/DT called/VBN function/NN the function that has been called. ok. 34) We/PRP also/RB know/VBP that/IN class/C NA member/NN

access/NN and/CC

therefore/RB chaining/VBG will/MD evaluate/VB here "chaining" could alternatively be interpreted as: chaining of something, not chaining something. So it is a noun. We/PRP also/RB know/VBP that/IN class/C NA member/NN access/NN and/CC therefore/RB chaining/NN will/MD evaluate/VB 35) The/DT postfix/NN expression/NN before/IN the/DT dot/NN If it was the postfixed expression, then postfixed would be an JJ. Here we leave it as a noun. 36) have/VBP no/DT preconceived/JJ notions/NNS about/IN ok. 37) used/VBD by/IN many/JJ hacking/NN applications/NNS is it a gerund, noun or an adjective? applications that hack.

applications on hacking.

applications of type hacking.

```
It is a noun. ok.
38)
6/CD
different/JJ
hashing/VBG
algorithms/NNS
"algorithms for hashing", not "algorithms that are hashing".
6/CD
different/JJ
hashing/NN
algorithms/NNS
39)
should/MD
I/PRP
use/VB
which/WDT
hashing/VBG
algorithm/NN
which algorithm for hashing should i use?
It's a noun.
should/MD
I/PRP
use/VB
which/WDT
hashing/NN
algorithm/NN
40)
the/DT
hash/JJ
size/NN
the size of the hash...
the/DT
hash/NN
size/NN
41)
when/WRB
hashing/VBG
file-names/NNS
is correct.
42)
Correct its unrelated, its just a handy implementation specific fact.
```

Correct/JJ
its/PRP\$
unrelated/JJ
,/,
its/PRP\$
just/RB
a/DT
handy/JJ

Here *Correct* is an interjection.

43)
with/IN
ANY/DT
hashing/VBG
algorithm/NN

has to be "with any algorithm for hashing"

with/IN ANY/DT hashing/NN algorithm/NN

44)
All/DT
hash/JJ
functions/NNS

hash is a noun here, not an adjective. all functions of hash.

All/DT hash/NN functions/NNS

45)
So/RB
what/WP
hash/VBP
function/NN
should/MD
I/PRP
use/VB

So what function to hash should I use? So what function related to hash should I use? The later.

So/RB what/WP hash/NN function/NN should/MD

```
I/PRP
use/VB
46)
if/IN
you/PRP
want/VBP
cryptographically/RB
secure/JJ
hash/JJ
function/NN
./.
"function to hash" versus "function related to hash". The correct
annotation is.
if/IN
you/PRP
want/VBP
a/DT
cryptographically/RB
secure/JJ
hash/NN
function/NN
47)
Having/VBG
a/DT
fast/JJ
hash/NN
function/NN
can/MD
Here *hash* has been correctly annotated.
48)
that/WDT
was/VBD
kind/NN
of/IN
what/WP
I/PRP
was/VBD
digging/NN
for/IN
with/IN
this/DT
question/NN
"digging" should be a gerund/present participle verb.
It can be modified by an adverb, like so: I was digging/VBG rampantly/RB
for...
```

```
that/WDT
was/VBD
kind/NN
of/IN
what/WP
I/PRP
was/VBD
digging/VBG
for/IN
with/IN
this/DT
question/NN
49)
do/VBP
nt/RB
ever/RB
use/VBP
algorithm/NN
XYZ/C
cause/VB
its/PRP$
broken/JJ
Here *cause* is short for *because*. The correct annotation is.
do/VBP
nt/RB
ever/RB
use/VBP
algorithm/NN
XYZ/C
cause/IN
its/PRP$
broken/JJ
50)
always/RB
use/VBP
the/DT
most/RBS
secure/JJ
one/CD
cause/NN
the/DT
performance/NN
difference/NN
is/VBZ
negligible/JJ
again, *cause* is annotated incorrectly. *cause* is short for *because*.
always/RB
use/VBP
```

```
the/DT
most/RBS
secure/JJ
one/CD
cause/IN
the/DT
performance/NN
difference/NN
is/VBZ
negligible/JJ
51)
their/PRP$
bits/NNS
are/VBP
not/RB
in/IN
overlapping/VBG
places/NNS
places that are overlapping. this is correct.
52)
in/IN
the/DT
default/JJ
rounding/VBG
mode/NN
mode that rounds? Yes. VBG is fine.
53)
that/IN
when/WRB
one/CD
of/IN
the/DT
above/JJ
types/NNS
of/IN
rounding/VBG
happens/VBZ
"when one of the above types of rounding [of the data] happens..."
and not "when one of the above types of rounding [the data] happens..."
It's a noun.
that/IN
when/WRB
one/CD
of/IN
the/DT
above/JJ
types/NNS
```

```
of/IN
rounding/NN
happens/VBZ
54)
first/RB
a/DT
rounding/VBG
of/IN
the/DT
result/NN
to/TO
the/DT
higher-precision/JJ
type/NN
*rounding* should be a noun here, since it's not "rounding [the result]",
but "rounding [of the result]".
55)
to/TO
have/VB
correctly/RB
rounded/VBN
results/NNS
results that have been rounded. ok.
56)
replace/VB
it/PRP
with/IN
DBL EPSILON/C
for/IN
doubles/VBZ
here *doubles* is a plural noun.
replace/VB
it/PRP
with/IN
DBL EPSILON/C
for/IN
doubles/NNS
57)
a/DT
huge/JJ
amount/NN
of/IN
cargo-culting/JJ
going/VBG
on/RP
```

```
"There is a huge amount of cargo-culting [of the data] going on" versus
"There is a huge amount of cargo-culting [the data] going on"
a/DT
huge/JJ
amount/NN
of/IN
cargo-culting/NN
going/VBG
on/RP
58)
Just/RB
doing/VBG
the/DT
arithmetic/NN
in/IN
higher/JJR
precision/NN
then/RB
truncating/JJ
"truncating" should be annotated as VBG as in "... then truncating [the
data]."
**how do we know it is the end of the comment?
solved!
59)
its/PRP$
excepted/VBN
value/NN
value that has been excepted
60)
write/VB
a/DT
throwing/VBG
swap/NN
a swap that is throwing. ok.
61)
Signed/VBN
overflow/NN
an overflow that has been signed. no.
an overflow of the type signed.
Signed/JJ
overflow/NN
```

62)

```
qoal/NN
is/VBZ
to/TO
improve/VB
your/PRP$
odds/NNS
until/IN
improving/NN
is/VBZ
more/RBR
expensive/JJ
than/IN
a/DT
breach/NN
"until improving [the data] is more..." so it should be VBG
the/DT
goal/NN
is/VBZ
to/TO
improve/VB
your/PRP$
odds/NNS
until/IN
improving/VBG
is/VBZ
more/RBR
expensive/JJ
than/IN
a/DT
breach/NN
63)
Make/NNP
sure/RB
your/PRP$
zone/NN
ca/MD
n't/RB
be/VB
xferd/NN
transferred (xferd) should be VBN.
64)
The/DT
point/NN
of/IN
salting/VBG
is/VBZ
to/TO
prevent/VB
```

the/DT

```
salting [the data]. VBG
salting [of the data]. NN
65)
precomputed/JJ
hash-password/JJ
entries/NNS
hash-password entries that have been precomputed.
precomputed/VBN
hash-password/JJ
entries/NNS
66)
Self-professed/JJ
experts/NNS
or/CC
peer/NN
reviewed/VBN
articles/NNS
articles that have been reviewed.
67)
the/DT
encoding/JJ
rules/NNS
the rules about encoding
the/DT
encoding/NN
rules/NNS
68)
your/PRP$
salting/JJ
algorithm/NN
algorithm for salting
your/PRP$
salting/NN
algorithm/NN
69)
for/IN
escaping/VBG
purposes/NNS
```

purposes that are escaping.

```
purposes of escaping.
70)
is/VBZ
that/IN
emulated/VBN
prepares/VBZ
is/VBZ
that/IN
emulated/VBN
prepares/NNS (reference to prepared statements)
71)
the/DT
salting/NN
scheme/NN
scheme that is salting
scheme for salting
72)
write/VB
any/DT
handling/VBG
code/NN
code that is handling
code for handling
73)
making/VBG
mistakes/NNS
in/IN
handling/VBG
code/NN
"in the handling code"
code for handling
making/VBG
mistakes/NNS
in/IN
handling/NN
code/NN
74)
highly/RB
performing/VBG
code/NN
code that is performing highly
```

75)

```
translates/NNS
to/TO
"/``
structured/JJ
exception/NN
handling/VBG
translates to structured exception handlings.no.
precomputed/JJ
dictionaries/NNS
dictionaries that have been precomputed
precomputed/VBN
dictionaries/NNS
77)
the/DT
provisioning/JJ
profile/NN
profile for provisioning
the/DT
provisioning/NN
profile/NN
78)
Use/VB
salted/JJ
hashes/NNS
hashes that have een salted
Use/VB
salted/VBN
hashes/NNS
79)
chaining/VBG
throttling/VBG
down/RP
to/TO
a/DT
single/JJ
chaining/VBG
throttling/NN
down/RP
to/TO
a/DT
single/JJ
```

```
80)
throttling/VBG
attempts/NNS
attempts that are throttling
attempts at throttling
throttling/NN
attempts/NNS
81)
You/PRP
must/MD
supply/NN
a/DT
layout width/C NA
attribute/NN
./.
supply is a verb
You/PRP
must/MD
supply/VB
a/DT
layout width/C NA
attribute/NN
./.
82)
I/PRP
am/VBP
able/JJ
to/TO
sort/NN
the/DT
FIrst/JJ
date/NN
sort should be verb
I/PRP
am/VBP
able/JJ
to/TO
sort/VB
the/DT
FIrst/JJ
date/NN
83)
home/NN
//CC
```

```
back/NN
key/NN
press/VB
press of the home or back key.
home/NN
//CC
back/NN
key/NN
press/NN
which key? the home key.
it's still a noun.
We can say "press home", "press back".
84)
keyboard/NN
press/VBP
still/RB
vibes/VBZ
press of the keyboard still vibes
keyboard/NN
press/NN
still/RB
vibes/VBZ
85)
on/IN
some/DT
click/VB
//CC
touch/VB
events/NNS
click of the mouse
touch of the screen
on/IN
some/DT
click/NN
//CC
touch/NN
events/NNS
86)
Just/RB
close/RB
phoneNumber/C
and/CC
email/C
after/IN
```

```
each/DT
iteration/NN
close is a verb
Just/RB
close/VB
phoneNumber/C
and/CC
email/C
after/IN
each/DT
iteration/NN
87)
Anyway/RB
Thanks/VBZ
./.
used as an informal expression of gratitude, appreciation, or
acknowledgment
Anyway/RB
Thanks/UH
./.
88)
A/DT
few/JJ
handle/VBP
links/NNS
links that are handled
links which are handles
A/DT
few/JJ
handle/NN
links/NNS
89)
Please/VB
post/NN
more/JJR
code/NN
./.
post is a verb
Please/VB
post/VB
more/JJR
code/NN
./.
```

```
90)
it/PRP
was/VBD
about/IN
string/NN
comparing/VBG
it was about comparing strings... ok.
91)
The/DT
extras/VBZ
i/PRP
have/VBP
extras is NNS
The/DT
extras/NNS
i/PRP
have/VBP
92)
Thanks/VBZ
a/DT
lot/NN
should be
Thanks/NNS
a/DT
lot/NN
93)
Please/RB
help/VBP
should be
Please/RB
help/VB
94)
game/JJ
screen/NN
should've been
game/NN
```

screen/NN

95) and/CC only/RB one/PRP of/IN them/PRP

one is cardinal number

and/CC
only/RB
one/CD
of/IN
them/PRP

96)
projects/NNS
my/PRP\$
main/JJ
one/CD
and/CC

projects/NNS
my/PRP\$
main/JJ
one/NN
and/CC