



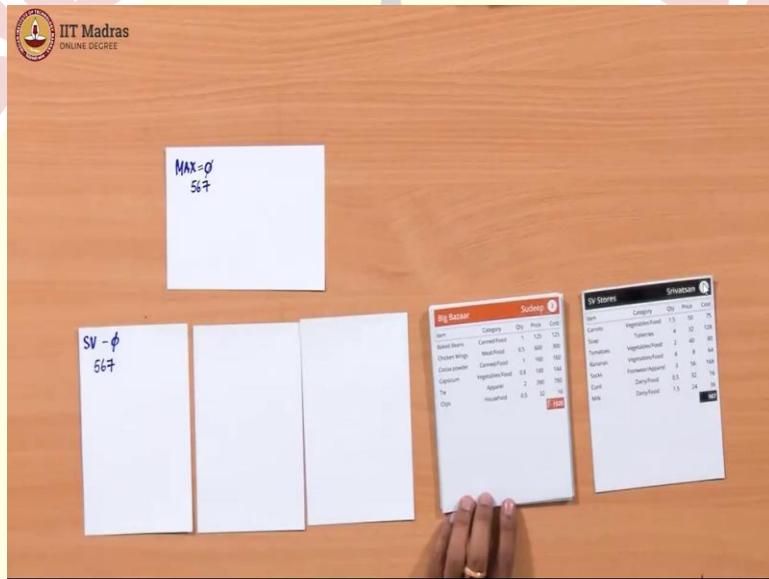
IIT Madras

ONLINE DEGREE

Computational Thinking
Indian Institute of Technology, Madras
Tutorial 2.4

Hello Computational Thinking students, in this tutorial we going to look at a procedure similar to what the professors have done in lecture 14. In lecture 14, professors execute a procedure where they finding the maximum revenue made by a store in the shopping bill data set.

(Refer Slide Time: 00:38)



For this they maintain a variable which they call Max, which is supposed to be the max revenue and it is initialized to 0 and as they go card by card for every new store they encounter they create a new variable and initialize it to 0 and that stores variable will maintain the revenue for that store. This sum variable for each store whenever it is greater than the max variable, the max variable is also updated to the new maximum revenue amount.

(Refer Slide Time: 01:17)

The image shows a wooden desk with four white sticky notes and a digital tablet. The top sticky note has handwritten text: MAX=0, 567, 1308, 2021, 2127, 3006, 3249, 3282, 4694, 5146, 5047, 6192, 6326, 6500, 3013, 1525, 5647, 8831, 12486, 13284, 5142, 9422, 3669, 4009, 4009, 2305, 3669, 4009, 4009, 13284. Below it, another sticky note says SV - Ø. The third sticky note has handwritten text: Ø, 1525, 5647, 8831, 12486, 13284, 5142, 9422, 3669, 4009, 4009, 2305. The fourth sticky note has handwritten text: Ø, 1525, 5647, 8831, 12486, 13284, 5142, 9422, 3669, 4009, 4009, 2305. To the right of the sticky notes is a digital tablet displaying a table titled "Big Bazaar" with columns for Item, Category, Qty, and Sale.

Item	Category	Qty	Sale
Breadroll	IngrainFood	150	40
MeatFood	0.5	300	160
Chicken Legs	MeatFood	1	300
Baconian	MeatFood	1	300
Lettuce	IngrainFood	0.8	150
Egg	MeatFood	12	9

In this way, at the end of the procedure the max variable indicates the maximum revenue made by a store in the shopping bill data set.

(Refer Slide Time: 01:29)

It was Monday morning. Swaminathan was reluctant to open his eyes. He considered Monday specially unpleasant in the calendar. After the delicious freedom of Saturday and Sunday, it was difficult to get into the Monday mood of work and discipline. He shuddered at the very thought of school: the dismal yellow building; the fire-eyed Vedanayagam, his class teacher, and headmaster with his thin long cane.

| Which part of speech contributes most characters to the text?
Calculate letters counts.

For our tutorial now we are going to do a very similar procedure on the words data set. In the words data set we might like to know which part of the speech contributes most characters to the text? This is not the same thing as which part of speech has a maximum number of words on its count. This is about the letter count per part of speech.

(Refer Slide Time: 02:00)



It was Monday morning. Swaminathan was reluctant to open his eyes. He considered Monday specially unpleasant in the calendar. After the delicious freedom of Saturday and Sunday, it was difficult to get into the Monday mood of work and discipline. He shuddered at the very thought of school: the dismal yellow building; the fire-eyed Vedanayagam, his class teacher, and headmaster with his thin long cane.

For example, these are the pronouns in this text. As you can see, although there number is 7, there letter count will be quite less. Because the words are all pretty small they just 2 letters or 3 letters. So we are trying to find out which part of speech contributes the maximum letters to this text.

(Refer Slide Time: 02:34)

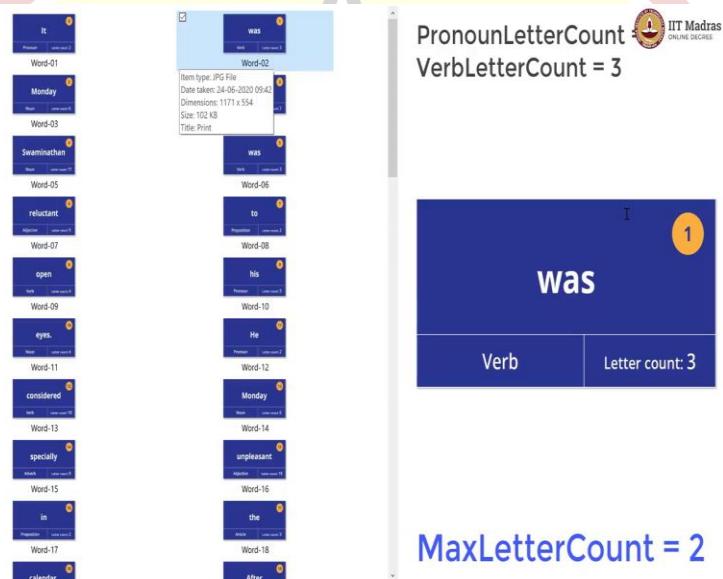


So we will go through this data card by card and every time we come across a new part of speech we will declare variable for that part of speech initialize it to 0 and that variable will keep track

of the sum of characters for that part of speech. And before that we also have a max letter count variable, which is initialized to 0.

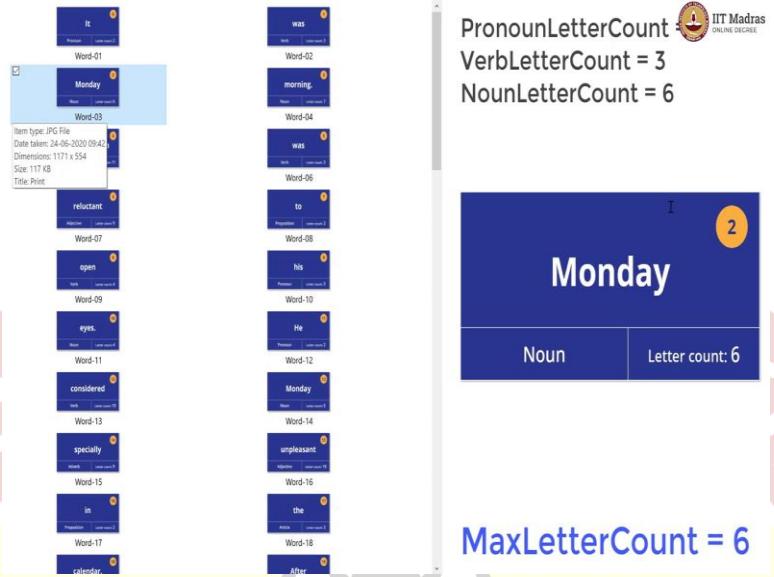
This will be updated whenever any of the individual part of speech variables have a value greater than the max value. So, let us begin here, we have the first card which is a pronoun and this is the first time we are seeing this part of speech. So, we have a variable called pronoun later count. This is initialized to 0 and then we increase the value to 2. Since max letter count has been initialized to 0, 2 is greater than 0, we update our max later count to 2.

(Refer Slide Time: 03:42)



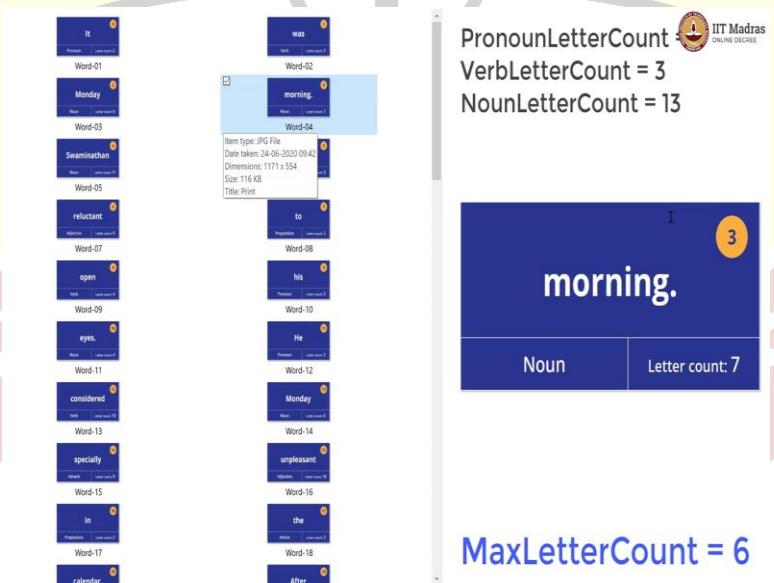
Going next, we have a verb. We have not seen a verb before, so we now declare and initialize this variable to 0 and the variable is verb letter count. Now it is updated to 3, 3 being greater than 2 the max is also updated to 3.

(Refer Slide Time: 04:07)



We see a noun here noun is again a new part of speech. So noun letter count is declared and initialized to 0 and now it is increased to 6. It is updated 6, which means max also has to be updated to 6 because 6 is greater than.

(Refer Slide Time: 04:28)



Another noun and this time the letter count is 7, so the total noun letter count would be 6 plus 7, which is 13 and 13 being greater than 6, max is also updated to 13.

(Refer Slide Time: 04:43)

PronounLetterCount = 3
VerbLetterCount = 3
NounLetterCount = 24

MaxLetterCount = 24

The screenshot shows a list of words in a document. The word 'Swaminathan' is highlighted with a blue selection box. The interface includes a toolbar at the top and a status bar at the bottom providing file details.

Category	Word	Letter Count
Pronoun	it	1
Verb	was	3
Noun	morning	7
Pronoun	was	3
Verb	to	1
Noun	his	3
Pronoun	He	1
Verb	Monday	6
Noun	unpleasant	8
Pronoun	the	2
Verb	After	4
Noun	Swaminathan	11
Adjective	reluctant	8
Verb	open	4
Noun	eyes	5
Verb	considered	8
Noun	work	4
Adjective	specialty	8
Noun	in	2
Preposition	calendar	7

One more noun and this is 11, so the total noun letter count total noun letter count would be 13 plus 11 that is 24. Since 24 is greater than max, max is also updated to 24.

(Refer Slide Time: 05:02)

PronounLetterCount = 3
VerbLetterCount = 6
NounLetterCount = 24

MaxLetterCount = 24

The screenshot shows a list of words in a document. The word 'was' is highlighted with a blue selection box. The interface includes a toolbar at the top and a status bar at the bottom providing file details.

Category	Word	Letter Count
Pronoun	it	1
Verb	was	3
Noun	morning	7
Pronoun	was	3
Verb	to	1
Noun	his	3
Pronoun	He	1
Verb	Monday	6
Noun	unpleasant	8
Pronoun	the	2
Verb	After	4
Noun	Swaminathan	11
Adjective	reluctant	8
Verb	open	4
Noun	eyes	5
Verb	considered	8
Noun	work	4
Adjective	specialty	8
Noun	in	2
Preposition	calendar	7
Verb	was	3

Now this another verb. So verb letter count comes to 6, but 6 is lesser than 24 so max is not updated.

(Refer Slide Time: 05:12)

PronounLetterCount = 6
VerbLetterCount = 6
NounLetterCount = 24
AdjectiveLetterCount = 9

I 6
reluctant
Adjective Letter count: 9

MaxLetterCount = 24

Then we have a adjective. This is the first time you seeing an adjective. So we declare adjective letter count and initialized it to 0 and we updated to 9.

(Refer Slide Time: 05:25)

PronounLetterCount = 6
VerbLetterCount = 6
NounLetterCount = 24
AdjectiveLetterCount = 9
PrepositionLetterCount = 2

I 7
to
Preposition Letter count: 2

MaxLetterCount = 24

We have a preposition which is new and so preposition letter count is declared initialized to 0 and updated to 2. This does not affect the max, of course.

(Refer Slide Time: 05:38)



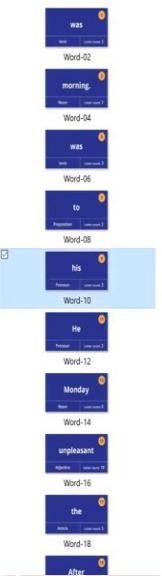
PronounLetterCount = 1
VerbLetterCount = 6
NounLetterCount = 24
AdjectiveLetterCount = 9
PrepositionLetterCount = 2



MaxLetterCount = 24

One more verb so we are now at verb letter count being 10.

(Refer Slide Time: 05:44)



PronounLetterCount = 1
VerbLetterCount = 10
NounLetterCount = 24
AdjectiveLetterCount = 9
PrepositionLetterCount = 2



MaxLetterCount = 24

One more pronoun. The pronoun letter count is now 5

(Refer Slide Time: 05:50)

PronounLetterCount = 10
VerbLetterCount = 10
NounLetterCount = 28
AdjectiveLetterCount = 9
PrepositionLetterCount = 2

I 10
eyes.
Noun Letter count: 4

MaxLetterCount = 28

One more noun and the noun letter count is now 24 plus 4 that is 28. Now 28 being greater than 24 the max is also updated to 28.

(Refer Slide Time: 06:03)

PronounLetterCount = 10
VerbLetterCount = 10
NounLetterCount = 28
AdjectiveLetterCount = 9
PrepositionLetterCount = 2

I 11
He
Pronoun Letter count: 2

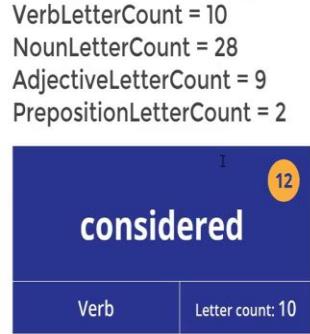
MaxLetterCount = 28

This is another pronoun and the pronoun letter count is now 7.

(Refer Slide Time: 06:08)



PronounLetterCount = 1
VerbLetterCount = 10
NounLetterCount = 28
AdjectiveLetterCount = 9
PrepositionLetterCount = 2



MaxLetterCount = 28

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 34
AdjectiveLetterCount = 9
PrepositionLetterCount = 2



MaxLetterCount = 34

A verb letter count will now be 10 plus 10, 20.

(Refer Slide Time: 06:14)

Another noun this time the noun letter count goes to 34 and thus the max is also updated 34.

(Refer Slide Time: 06:24)



MaxLetterCount = 34

We have an adverb which is new. So we introduce a new variable called adverb letter count. We initialize it to 0 and then we update it to 9.

(Refer Slide Time: 06:37)



AdverbLetterCount = 9

MaxLetterCount = 34

Now, we have one more adjective making the adjective letter count 19.

(Refer Slide Time: 06:42)

It	Word-01
Monday	Word-02
Swaminathan	Word-03
reluctant	Word-04
open	Word-05
eyes.	Word-06
considered	Word-07
specially	Word-08
in	Word-09
Item type: JPG File	Word-10
Date taken: 24-06-2020 09:42	Word-11
	Word-12
	Word-13
	Word-14
	Word-15
	Word-16
	Word-17
	Word-18
	After

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 34
AdjectiveLetterCount = 19
PrepositionLetterCount = 4



AdverbLetterCount = 9

MaxLetterCount = 34

Then there is one preposition. The preposition letter count is now 4.

(Refer Slide Time: 06:48)

It	Word-01
Monday	Word-02
Swaminathan	Word-03
reluctant	Word-04
open	Word-05
eyes.	Word-06
considered	Word-07
specially	Word-08
in	Word-09
Item type: JPG File	Word-10
Date taken: 24-06-2020 09:42	Word-11
	Word-12
	Word-13
	Word-14
	Word-15
	Word-16
	Word-17
	Word-18
	the

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 34
AdjectiveLetterCount = 19
PrepositionLetterCount = 4



AdverbLetterCount = 9

ArticleLetterCount = 0

MaxLetterCount = 34

An article, article is new so new variable article letter count which is equal to 0 and then update it to 3.

(Refer Slide Time: 06:59)

Word-01	Monday
Word-02	morning.
Word-03	Swaminathan
Word-04	was
Word-05	Word-06
Word-07	to
Word-08	Proposition
Word-09	open
Word-10	his
Word-11	eyes.
Word-12	Word-13
Word-13	considered
Word-14	Monday
Word-15	Word-16
Word-16	unpleasant
Word-17	the
Word-18	After
Word-19	calendar.
Word-20	

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 42
AdjectiveLetterCount = 19
PrepositionLetterCount = 4



AdverbLetterCount = 9
ArticleLetterCount = 3

MaxLetterCount = 34

Now, this is calendar is a noun with little count 8 that gives us noun letter count this 34 plus 8, which is 42 and this is also the new maximum.

(Refer Slide Time: 07:11)

Word-01	Monday
Word-02	morning.
Word-03	Swaminathan
Word-04	was
Word-05	Word-06
Word-07	to
Word-08	Proposition
Word-09	open
Word-10	his
Word-11	eyes.
Word-12	Word-13
Word-13	considered
Word-14	Monday
Word-15	Word-16
Word-16	unpleasant
Word-17	the
Word-18	After
Word-19	calendar.
Word-20	After

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 42
AdjectiveLetterCount = 19
PrepositionLetterCount = 4



AdverbLetterCount = 9
ArticleLetterCount = 3

MaxLetterCount = 42

You have a preposition now of with 5 letters. So that is proposition letter count is 9.

(Refer Slide Time: 07:20)

Word-03	Swaminathan	Word-04	was
Word-05	reluctant	Word-06	to
Word-07	open	Word-08	his
Word-09	eyes.	Word-10	He
Word-11	considered	Word-12	Monday
Word-13	specially	Word-14	unpleasant
Word-15	in	Word-16	the
Word-17	calendar.	Word-18	After
Word-19	the	Word-20	delicious
Word-21		Word-22	

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 42
AdjectiveLetterCount = 19
PrepositionLetterCount = 9



AdverbLetterCount = 9
ArticleLetterCount = 6

MaxLetterCount = 42

One more article, article letter count is 6.

(Refer Slide Time: 07:24)

Word-03	Swaminathan	Word-04	was
Word-05	reluctant	Word-06	to
Word-07	open	Word-08	his
Word-09	eyes.	Word-10	He
Word-11	considered	Word-12	Monday
Word-13	specially	Word-14	unpleasant
Word-15	in	Word-16	the
Word-17	calendar.	Word-18	After
Word-19	the	Word-20	delicious
Word-21		Word-22	

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 42
AdjectiveLetterCount = 19
PrepositionLetterCount = 9



AdverbLetterCount = 9
ArticleLetterCount = 6

MaxLetterCount = 42

An adjective letter count is now 19 plus 9, 28.

(Refer Slide Time: 07:31)

Word-05 reluctant	Word-06 to
Word-07 open	Word-08 his
Word-09 eyes.	Word-10 He
Word-11 considered	Word-12 Monday
Word-13 specially	Word-14 unpleasant
Word-15 in	Word-16 the
Word-17 calendar.	Word-18 After
Word-19 the	Word-20 delicious
Word-21 freedom	Word-22 of
Word-23 <input checked="" type="checkbox"/>	Word-24 <input checked="" type="checkbox"/>

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 42
AdjectiveLetterCount = 28
PrepositionLetterCount = 9



AdverbLetterCount = 9
ArticleLetterCount = 6

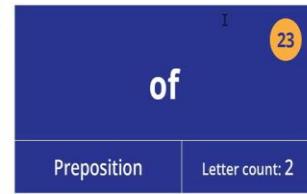
MaxLetterCount = 42

One more noun, the noun letter count is now 49 which makes the max also 49.

(Refer Slide Time: 07:42)

Word-05 reluctant	Word-06 to
Word-07 open	Word-08 his
Word-09 eyes.	Word-10 He
Word-11 considered	Word-12 Monday
Word-13 specially	Word-14 unpleasant
Word-15 in	Word-16 the
Word-17 calendar.	Word-18 After
Word-19 the	Word-20 delicious
Word-21 freedom	Word-22 of
Word-23 <input checked="" type="checkbox"/>	Word-24 <input checked="" type="checkbox"/>

PronounLetterCount = 1
VerbLetterCount = 20
NounLetterCount = 49
AdjectiveLetterCount = 28
PrepositionLetterCount = 11



AdverbLetterCount = 9
ArticleLetterCount = 6

MaxLetterCount = 49

New proposition, proposition letter count is now 11.

(Refer Slide Time: 07:46)

Word-07	open	Word-08	his
Word-09	eyes.	Word-09	He
Word-11	considered	Word-10	Monday
Word-13		Word-11	
Word-15	specially	Word-12	unpleasant
Word-17	in	Word-13	the
Word-19	calendar.	Word-14	After
Word-21	the	Word-15	delicious
Word-23	freedom	Word-16	of
Word-25	Saturday	Word-17	and

PronounLetterCount = 1
VerbLetterCount = 20

NounLetterCount = 57

AdjectiveLetterCount = 28

PrepositionLetterCount = 11



AdverbLetterCount = 9

ArticleLetterCount = 6

MaxLetterCount = 49

New noun the noun letter count is now 57. Max is lesser than 57, so max is updated to 57.

(Refer Slide Time: 07:57)

Word-07	open	Word-08	his
Word-09	eyes.	Word-09	He
Word-11	considered	Word-10	Monday
Word-13		Word-11	
Word-15	specially	Word-12	unpleasant
Word-17	in	Word-13	the
Word-19	calendar.	Word-14	After
Word-21	the	Word-15	delicious
Word-23	freedom	Word-16	of
Word-25	Saturday	Word-17	and

PronounLetterCount = 1
VerbLetterCount = 20

NounLetterCount = 57

AdjectiveLetterCount = 28

PrepositionLetterCount = 11



AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 0

MaxLetterCount = 57

A conjunction is new so we have conjunction letter count being declared initialized to 0 and updated to 3.

(Refer Slide Time: 08:07)

Word-09	Word-10
eyes.	He
Word-11	Word-12
considered	Monday
Word-13	Word-14
specially	unpleasant
Word-15	Word-16
in	the
Word-17	Word-18
calendar.	After
Word-19	Word-20
the	delicious
Word-21	Word-22
freedom	of
Word-23	Word-24
Saturday	and
Word-25	Word-26
Sunday,	it
Word-27	Word-28

PronounLetterCount = 9
VerbLetterCount = 20

NounLetterCount = 57

AdjectiveLetterCount = 28

PrepositionLetterCount = 11



AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 3

MaxLetterCount = 57

One more noun so we now add 63 for noun letter count. 63 being greater than 57 max is also updated to 63.

(Refer Slide Time: 08:18)

Word-09	Word-10
eyes.	He
Word-11	Word-12
considered	Monday
Word-13	Word-14
specially	unpleasant
Word-15	Word-16
in	the
Word-17	Word-18
calendar.	After
Word-19	Word-20
the	delicious
Word-21	Word-22
freedom	of
Word-23	Word-24
Saturday	and
Word-25	Word-26
Sunday,	it
Word-27	Word-28

PronounLetterCount = 9
VerbLetterCount = 20
NounLetterCount = 63
AdjectiveLetterCount = 28
PrepositionLetterCount = 11



AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 3

MaxLetterCount = 63

Of the pronoun letter count is 9.

(Refer Slide Time: 08:22)

Word-11	considered
Word-12	Monday
Word-13	specially
Word-14	unpleasant
Word-15	Word-16
Word-17	the
Word-18	After
Word-19	Word-20
Word-21	delicious
Word-22	of
Word-23	and
Word-24	Word-25
Word-25	it
Word-26	Word-27
Word-27	difficult
Word-28	Word-29
Word-29	Word-30

PronounLetterCount = 0
VerbLetterCount = 20

NounLetterCount = 63

AdjectiveLetterCount = 28

PrepositionLetterCount = 11

I
28
was

Verb Letter count: 3

AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 3

MaxLetterCount = 63

The verb letter count is 23.

(Refer Slide Time: 08:26)

Word-11	considered
Word-12	Monday
Word-13	specially
Word-14	unpleasant
Word-15	the
Word-16	After
Word-17	Word-18
Word-18	delicious
Word-19	of
Word-20	and
Word-21	Word-22
Word-22	it
Word-23	Word-24
Word-24	Word-25
Word-25	Word-26
Word-26	Word-27
Word-27	difficult
Word-28	Word-29
Word-29	Word-30

PronounLetterCount = 0
VerbLetterCount = 23

NounLetterCount = 63

AdjectiveLetterCount = 28

PrepositionLetterCount = 11

I
29
difficult

Adjective Letter count: 9

AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 3

MaxLetterCount = 63

Adjectives letter count is 37.

(Refer Slide Time: 08:30)

Word-13	Word-14
specialy	unpleasant
Word-15	the
in	Word-16
Word-17	After
calendar.	Word-18
Word-19	Word-19
the	Word-20
Word-21	delicious
freedom	Word-22
Word-23	of
Saturday	Word-24
Word-25	and
Sunday.	Word-26
Word-27	it
was	Word-28
Word-29	difficult
to	Word-30
Word-31	get
	Word-32

PronounLetterCount = 1



IIT Madras
ONLINE DEGREE

VerbLetterCount = 23

NounLetterCount = 63

AdjectiveLetterCount = 37

PrepositionLetterCount = 13

I
30
to

Preposition Letter count: 2

AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 3

MaxLetterCount = 63

Preposition letter count is 13.

(Refer Slide Time: 08:35)

Word-13	Word-14
specialy	unpleasant
Word-15	the
in	Word-16
Word-17	After
calendar.	Word-18
Word-19	Word-19
the	Word-20
Word-21	delicious
freedom	Word-22
Word-23	of
Saturday	Word-24
Word-25	and
Sunday.	Word-26
Word-27	it
was	Word-28
Word-29	difficult
to	Word-30
Word-31	get
	Word-32

PronounLetterCount = 1



IIT Madras
ONLINE DEGREE

VerbLetterCount = 26

NounLetterCount = 63

AdjectiveLetterCount = 37

PrepositionLetterCount = 13

I
31
get

Verb Letter count: 3

AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 3

MaxLetterCount = 63

Verb letter count 26.

(Refer Slide Time: 08:37)

Word-15	in
Word-16	the
Word-17	calendar.
Word-18	After
Word-19	Word-19
Word-20	Word-20
Word-21	the
Word-22	Word-22
Word-23	freedom
Word-24	of
Word-25	Saturday
Word-26	and
Word-27	Sunday,
Word-28	it
Word-29	difficult
Word-30	Word-30
Word-31	get
Word-32	the
Word-33	into
Word-34	the

PronounLetterCount = 1



IIT Madras
ONLINE DEGREE

VerbLetterCount = 26

NounLetterCount = 63

AdjectiveLetterCount = 37

PrepositionLetterCount = 17

I
32
into

Preposition Letter count: 4

AdverbLetterCount = 9

ArticleLetterCount = 6

ConjunctionLetterCount = 3

MaxLetterCount = 63

Preposition letter count 17.

(Refer Slide Time: 08:41)

Word-15	in
Word-16	the
Word-17	Word-17
Word-18	After
Word-19	Word-19
Word-20	Word-20
Word-21	the
Word-22	Word-22
Word-23	freedom
Word-24	of
Word-25	Saturday
Word-26	and
Word-27	Sunday,
Word-28	it
Word-29	difficult
Word-30	Word-30
Word-31	get
Word-32	the
Word-33	into
Word-34	the

PronounLetterCount = 1



IIT Madras
ONLINE DEGREE

VerbLetterCount = 26

NounLetterCount = 63

AdjectiveLetterCount = 37

PrepositionLetterCount = 17

I
33
the

Article Letter count: 3

AdverbLetterCount = 9

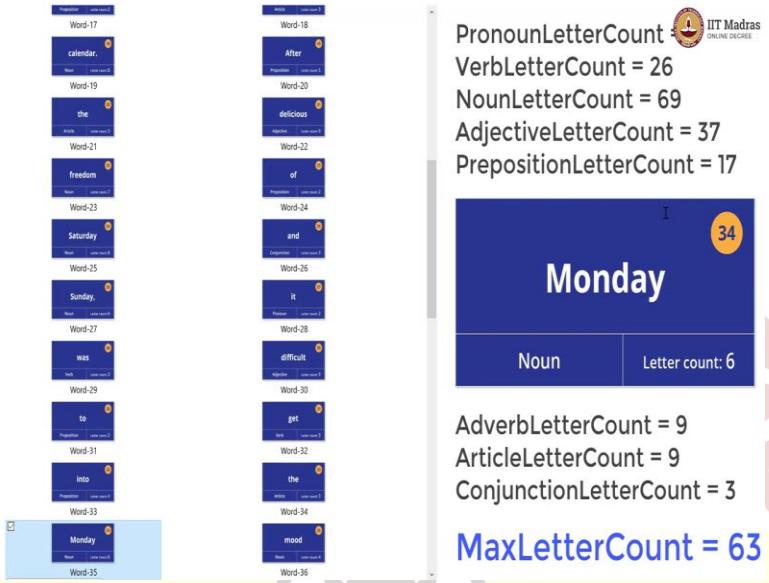
ArticleLetterCount = 9

ConjunctionLetterCount = 3

MaxLetterCount = 63

Article letter count 9.

(Refer Slide Time: 08:44)



Noun letter count 69. This requires us to update the max as well max is now 69.

(Refer Slide Time: 08:53)



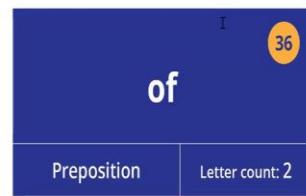
One more noun and noun letter count to 73 which means the max also has to be updated to 73.

(Refer Slide Time: 09:02)

Word-19
the
Word-21
freedom
Word-23
Saturday
Word-25
Sunday,
Word-27
was
Word-29
to
Word-31
into
Word-33
Monday
Word-35
of
Word-37

Word-20
delicious
Adjective letter count 3
Word-22
of
Preposition letter count 2
Word-24
and
Word-26
I
it
Word-28
difficult
Word-30
get
Word-32
the
Word-34
mood
Word-36
work
Word-38

PronounLetterCount = 1
VerbLetterCount = 26
NounLetterCount = 73
AdjectiveLetterCount = 37
PrepositionLetterCount = 17



AdverbLetterCount = 9
ArticleLetterCount = 9
ConjunctionLetterCount = 3

MaxLetterCount = 69

Preposition letter count is 19.

(Refer Slide Time: 09:07)

Word-23
Saturday
Word-25
Sunday,
Word-27
was
Word-29
to
Word-31
into
Word-33
Monday
Word-35
of
Word-37
and
Word-39
He
Word-41

Word-24
and
Conjunction letter count 2
Word-26
I
it
Preposition letter count 2
Word-28
difficult
Adjective letter count 3
Word-30
get
Word-32
the
Word-34
mood
Word-36
work
Word-38

PronounLetterCount = 1
VerbLetterCount = 26
NounLetterCount = 73
AdjectiveLetterCount = 37
PrepositionLetterCount = 19



AdverbLetterCount = 9
ArticleLetterCount = 9
ConjunctionLetterCount = 3

MaxLetterCount = 69

Noun letter count is now 77 so max is also updated to 77.

(Refer Slide Time: 09:14)

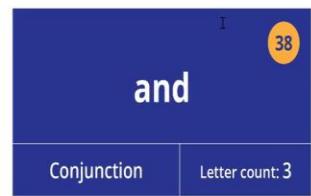
Word-23	Word-24
Saturday	and
Word-25	Word-25
Sunday,	it
Word-27	Word-28
was	difficult
Word-29	Word-30
to	get
Word-31	Word-32
into	the
Word-33	Word-34
Monday	mood
Word-35	Word-36
of	work
Word-37	Word-38
and	discipline.
Word-39	Word-40
He	shuddered
Word-41	Word-42

PronounLetterCount = 1
VerbLetterCount = 26

NounLetterCount = 77

AdjectiveLetterCount = 37

PrepositionLetterCount = 19



AdverbLetterCount = 9

ArticleLetterCount = 9

ConjunctionLetterCount = 5

MaxLetterCount = 77

Conjunction letter count is now 6.

(Refer Slide Time: 09:18)

Word-23	Word-24
Saturday	and
Word-25	Word-25
Sunday,	it
Word-27	Word-28
was	difficult
Word-29	Word-30
to	get
Word-31	Word-32
into	the
Word-33	Word-34
Monday	mood
Word-35	Word-36
of	work
Word-37	Word-38
and	discipline.
Word-39	Word-40
He	shuddered
Word-41	Word-42

PronounLetterCount = 1
VerbLetterCount = 26

NounLetterCount = 87

AdjectiveLetterCount = 37

PrepositionLetterCount = 19



AdverbLetterCount = 9

ArticleLetterCount = 9

ConjunctionLetterCount = 6

MaxLetterCount = 87

Noun letter count is now 87 which means max is also updated to 87.

(Refer Slide Time: 09:24)

Word-23	Word-24
Saturday	and
Word-25	Word-26
Sunday,	it
Word-27	Word-28
was	difficult
Word-29	Word-30
to	get
Word-31	Word-32
into	the
Word-33	Word-34
Monday	mood
Word-35	Word-36
of	work
Word-37	Word-38
and	discipline.
Word-39	Word-40
He	shuddered
Word-41	Word-42

PronounLetterCount = 11

VerbLetterCount = 26

NounLetterCount = 87

AdjectiveLetterCount = 37

PrepositionLetterCount = 19



AdverbLetterCount = 9

ArticleLetterCount = 9

ConjunctionLetterCount = 6

MaxLetterCount = 87

Pronoun letter count is 11.

(Refer Slide Time: 09:28)

Word-23	Word-24
Saturday	and
Word-25	Word-26
Sunday,	it
Word-27	Word-28
was	difficult
Word-29	Word-30
to	get
Word-31	Word-32
into	the
Word-33	Word-34
Monday	mood
Word-35	Word-36
of	work
Word-37	Word-38
and	discipline.
Word-39	Word-40
He	shuddered
Word-41	Word-42

PronounLetterCount = 11

VerbLetterCount = 26

NounLetterCount = 87

AdjectiveLetterCount = 37

PrepositionLetterCount = 19



AdverbLetterCount = 9

ArticleLetterCount = 9

ConjunctionLetterCount = 6

MaxLetterCount = 87

Verb letter count is 35.

(Refer Slide Time: 09:31)



PronounLetterCount = 1
VerbLetterCount = 35

NounLetterCount = 87

AdjectiveLetterCount = 37

PrepositionLetterCount = 19



AdverbLetterCount = 9

ArticleLetterCount = 9

ConjunctionLetterCount = 6

MaxLetterCount = 87

Preposition letter count is 21.

(Refer Slide Time: 09:35)



PronounLetterCount = 1
VerbLetterCount = 35

NounLetterCount = 87

AdjectiveLetterCount = 37

PrepositionLetterCount = 21



AdverbLetterCount = 9

ArticleLetterCount = 9

ConjunctionLetterCount = 6

MaxLetterCount = 87

Article letter count is 12.

(Refer Slide Time: 09:38)



PronounLetterCount = 1 IIT Madras

VerbLetterCount = 35

NounLetterCount = 87

AdjectiveLetterCount = 37

PrepositionLetterCount = 21



AdverbLetterCount = 9

ArticleLetterCount = 12

ConjunctionLetterCount = 6

MaxLetterCount = 87

Adverb letter count is 13.

(Refer Slide Time: 09:41)



PronounLetterCount = 1 IIT Madras

VerbLetterCount = 35

NounLetterCount = 87

AdjectiveLetterCount = 37

PrepositionLetterCount = 21



AdverbLetterCount = 13

ArticleLetterCount = 12

ConjunctionLetterCount = 6

MaxLetterCount = 87

One more noun and noun letter count this now at 94 max has to be updated to 94.

(Refer Slide Time: 09:49)

Word-29	to	Verb
Word-30	get	Verb
Word-31	the	Noun
Word-32	mood	Noun
Word-33	Word-34	
Word-35	Word-36	
Word-37	work	Verb
Word-38	discipline.	Noun
Word-39	shuddered	Verb
Word-40	the	Noun
Word-41	Word-42	
Word-43	Word-44	
Word-45	thought	Noun
Word-46	school:	Noun
Word-47	Word-48	

PronounLetterCount = 0
VerbLetterCount = 35

NounLetterCount = 94

AdjectiveLetterCount = 37

PrepositionLetterCount = 23



AdverbLetterCount = 13

ArticleLetterCount = 12

ConjunctionLetterCount = 6

MaxLetterCount = 94

Preposition letter count is 23.

(Refer Slide Time: 09:53)

Word-29	to	Verb
Word-30	get	Verb
Word-31	the	Noun
Word-32	mood	Noun
Word-33	Word-34	
Word-35	Word-36	
Word-37	work	Verb
Word-38	discipline.	Noun
Word-39	shuddered	Verb
Word-40	the	Noun
Word-41	Word-42	
Word-43	Word-44	
Word-45	thought	Noun
Word-46	school:	Noun
Word-47	Word-48	

PronounLetterCount = 0
VerbLetterCount = 35

NounLetterCount = 94

AdjectiveLetterCount = 37

PrepositionLetterCount = 23



AdverbLetterCount = 13

ArticleLetterCount = 12

ConjunctionLetterCount = 6

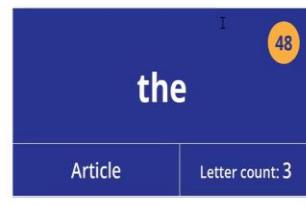
MaxLetterCount = 94

And noun letter count is now a 100, so max is also updated 100.

(Refer Slide Time: 10:00)



PronounLetterCount = 1
VerbLetterCount = 35
NounLetterCount = 100
AdjectiveLetterCount = 37
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 12
ConjunctionLetterCount = 6

MaxLetterCount = 100

(Refer Slide Time: 10:03)



PronounLetterCount = 1
VerbLetterCount = 35
NounLetterCount = 100
AdjectiveLetterCount = 37
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 15
ConjunctionLetterCount = 6

MaxLetterCount = 100

(Refer Slide Time: 10:06)

Word-33
Monday
Word-35
of
Word-37
and
Impersonal - verb aux 1
Word-39
He
Word-41
at
Word-43
very
Word-45
of
Word-47
the
Adverb - verb aux 1
Word-49
yellow
Adjective - verb aux 1
Word-51

Word-34
mood
Word-36
work
Word-38
discipline.
Word-40
shuddered
Word-42
the
Word-44
thought
Word-46
school:
Word-48
dismal
Word-50
building:
Word-52

PronounLetterCount = 1
VerbLetterCount = 35
NounLetterCount = 100
AdjectiveLetterCount = 43
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 15
ConjunctionLetterCount = 6

MaxLetterCount = 100

And adjective letter count is now 49.

(Refer Slide Time: 10:10)

Word-33
Monday
Word-35
of
Word-37
and
Impersonal - verb aux 1
Word-39
He
Word-41
at
Word-43
very
Word-45
of
Word-47
the
Adverb - verb aux 1
Word-49
yellow
Adjective - verb aux 1
Word-51

Word-34
mood
Word-36
work
Word-38
discipline.
Word-40
shuddered
Word-42
the
Word-44
thought
Word-46
school:
Word-48
dismal
Word-50
building:
Word-52

PronounLetterCount = 1
VerbLetterCount = 35
NounLetterCount = 108
AdjectiveLetterCount = 49
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 15
ConjunctionLetterCount = 6

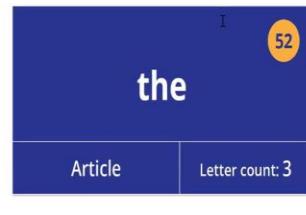
MaxLetterCount = 100

Noun letter count this now a 108 and max is also updated.

(Refer Slide Time: 10:16)

Word-35	of
Word-36	work
Word-37	discipline.
Word-38	shuddered
Word-39	the
Word-40	thought
Word-41	school.
Word-42	dismal
Word-43	building.
Word-44	fire-eyed
Word-45	
Word-46	
Word-47	
Word-48	
Word-49	
Word-50	
Word-51	
Word-52	
Word-53	
Word-54	

PronounLetterCount = 0
VerbLetterCount = 35
NounLetterCount = 108
AdjectiveLetterCount = 49
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 15
ConjunctionLetterCount = 6

MaxLetterCount = 108

Article letter count is 18.

(Refer Slide Time: 10:20)

Word-35	of
Word-36	work
Word-37	discipline.
Word-38	shuddered
Word-39	the
Word-40	thought
Word-41	school.
Word-42	dismal
Word-43	building.
Word-44	fire-eyed
Word-45	
Word-46	
Word-47	
Word-48	
Word-49	
Word-50	
Word-51	
Word-52	
Word-53	
Word-54	

PronounLetterCount = 0
VerbLetterCount = 35
NounLetterCount = 108
AdjectiveLetterCount = 57
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 18
ConjunctionLetterCount = 6

MaxLetterCount = 108

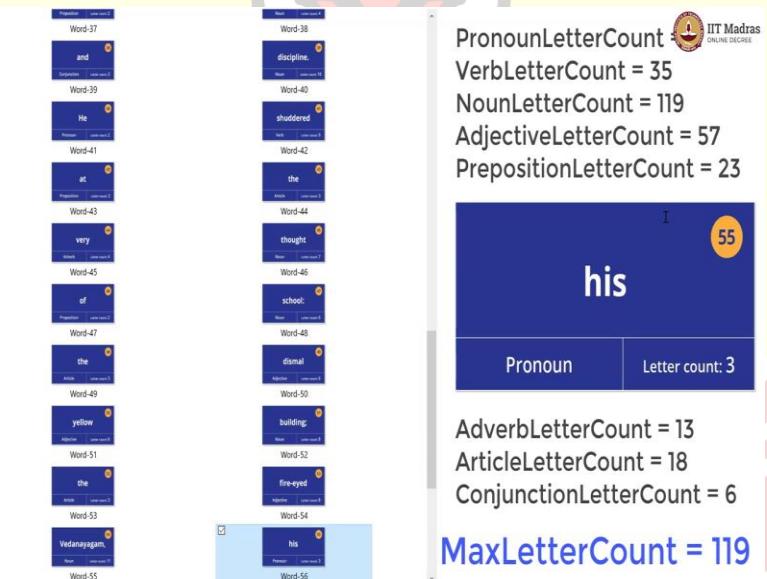
Adjective letter count is now 57.

(Refer Slide Time: 10:23)



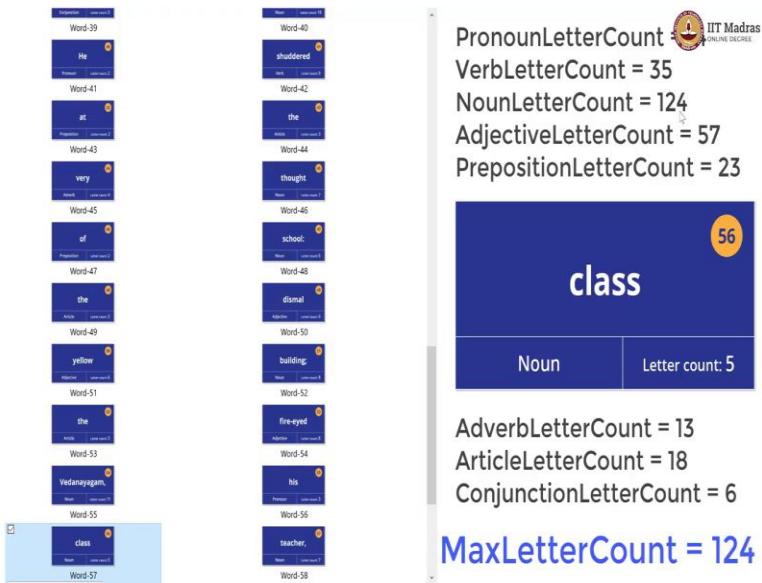
One more noun, noun letter count is now 119, so max is also updated to 119.

(Refer Slide Time: 10:34)



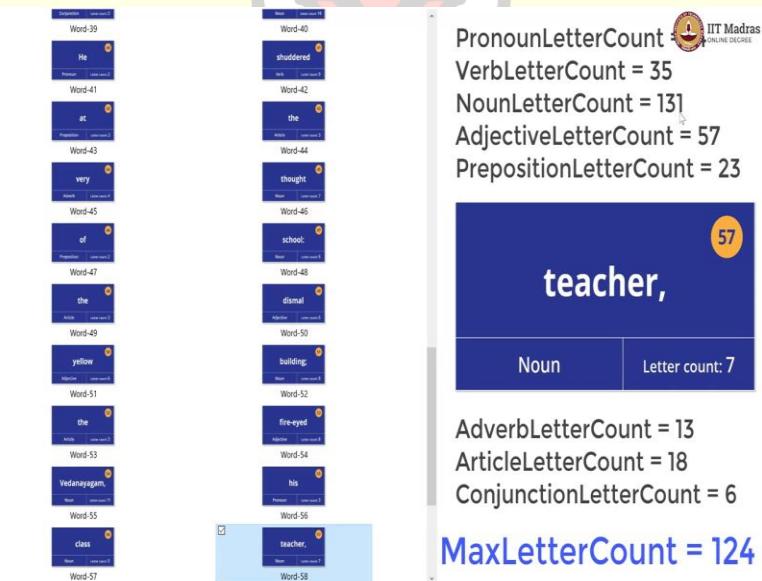
Pronoun letter count is now 14.

(Refer Slide Time: 10:38)



Noun letter count is 124 leading to the max also being updated to a 124.

(Refer Slide Time: 10:47)

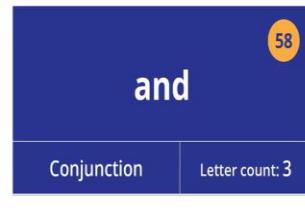


One more noun, noun letter count is now 131 max letter count is also going to be 131.

(Refer Slide Time: 10:58)

Word-41	at
Word-42	the
Word-43	Adverb
Word-44	thought
Word-45	Word-46
Word-47	school.
Word-48	Word-49
Word-49	dismal
Word-50	Word-51
Word-51	building.
Word-52	Word-53
Word-53	fire-eyed
Word-54	Word-55
Word-55	his
Word-56	Word-57
Word-57	teacher.
Word-58	Word-59
Word-59	headmaster

PronounLetterCount = 1
VerbLetterCount = 35
NounLetterCount = 131
AdjectiveLetterCount = 57
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 18
ConjunctionLetterCount = 9

MaxLetterCount = 131

Conjunction letter count is now 9.

(Refer Slide Time: 11:01)

Word-41	at
Word-42	the
Word-43	Adverb
Word-44	thought
Word-45	Word-46
Word-47	school.
Word-48	Word-49
Word-49	dismal
Word-50	Word-51
Word-51	building.
Word-52	Word-53
Word-53	fire-eyed
Word-54	Word-55
Word-55	his
Word-56	Word-57
Word-57	teacher.
Word-58	Word-59
Word-59	headmaster

PronounLetterCount = 1
VerbLetterCount = 35
NounLetterCount = 141
AdjectiveLetterCount = 57
PrepositionLetterCount = 23



AdverbLetterCount = 13
ArticleLetterCount = 18
ConjunctionLetterCount = 9

MaxLetterCount = 141

Noun letter is count is now updated to 141. Max letter count also has to be updated to a 141.

(Refer Slide Time: 11:11)

Word-43	very	Adverb	Letter count: 4
Word-45	of	Preposition	Letter count: 2
Word-47	the	Article	Letter count: 3
Word-49	yellow	Adjective	Letter count: 5
Word-51	the	Article	Letter count: 3
Word-53	Vedanayagan,	Noun	Letter count: 10
Word-55	class	Noun	Letter count: 5
Word-57	and	Conjunction	Letter count: 3
Word-59	with	Preposition	Letter count: 4
Word-61			

PronounLetterCount = 0
VerbLetterCount = 35
NounLetterCount = 141
AdjectiveLetterCount = 57
PrepositionLetterCount = 23

with

Preposition Letter count: 4

AdverbLetterCount = 13
ArticleLetterCount = 18
ConjunctionLetterCount = 9

MaxLetterCount = 141

Preposition letter count is 27.

(Refer Slide Time: 11:15)

Word-43	very	Adverb	Letter count: 4
Word-45	of	Preposition	Letter count: 2
Word-47	the	Article	Letter count: 3
Word-49	yellow	Adjective	Letter count: 5
Word-51	the	Article	Letter count: 3
Word-53	Vedanayagan,	Noun	Letter count: 10
Word-55	class	Noun	Letter count: 5
Word-57	and	Conjunction	Letter count: 3
Word-59	with	Preposition	Letter count: 4
Word-61	his	Pronoun	Letter count: 3
Word-62			

PronounLetterCount = 0
VerbLetterCount = 35
NounLetterCount = 141
AdjectiveLetterCount = 57
PrepositionLetterCount = 27

his

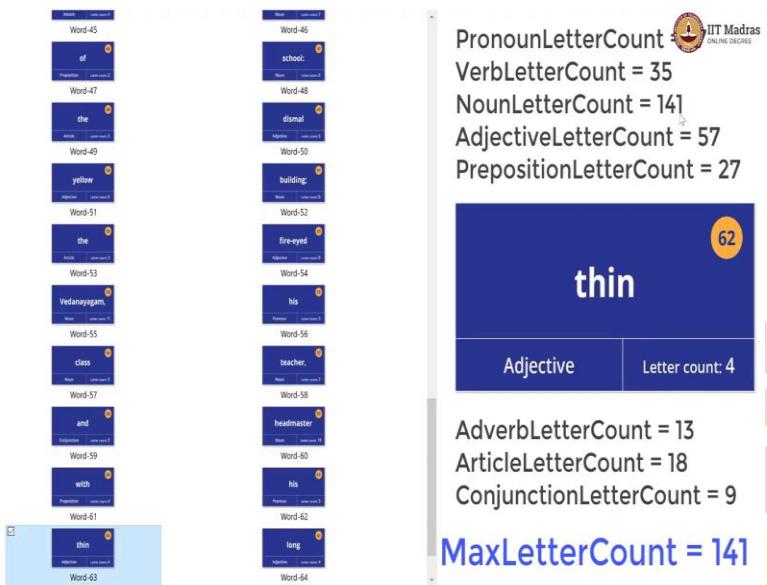
Pronoun Letter count: 3

AdverbLetterCount = 13
ArticleLetterCount = 18
ConjunctionLetterCount = 9

MaxLetterCount = 141

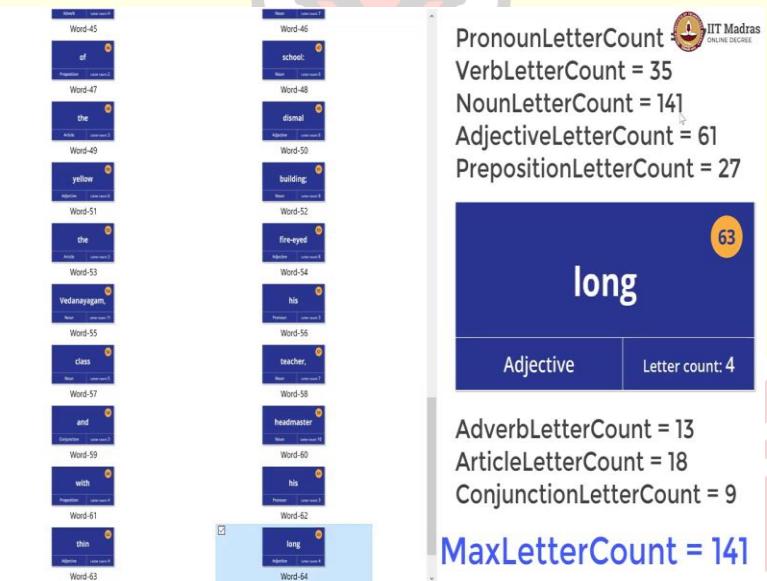
Pronoun letter count is 17.

(Refer Slide Time: 11:19)



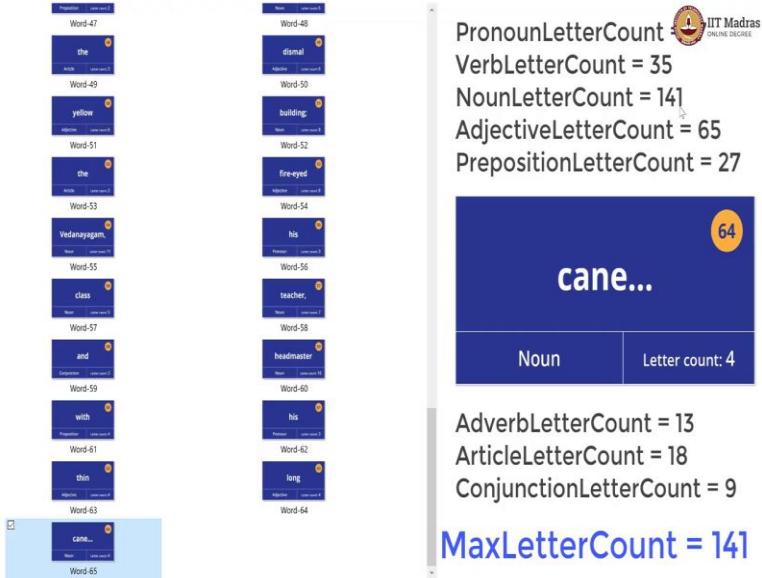
Adjectives letter count is 61.

(Refer Slide Time: 11:21)



Adjective letter count is now again updated to 65.

(Refer Slide Time: 11:25)



And one more noun, so noun letter count is 145. Max letter count is also now updated to a 145 and this is the last card. So, 145 is the maximum letter count for a part of speech in this text.

(Refer Slide Time: 11:46)

It was Monday morning. Swaminathan was reluctant to open his eyes. He considered Monday specially unpleasant in the calendar. After the delicious freedom of Saturday and Sunday, it was difficult to get into the Monday mood of work and discipline. He shuddered at the very thought of school: the dismal yellow building; the fire-eyed Vedanayagam, his class teacher, and headmaster with his thin long cane.

Here as you can see the nouns are typically long words and there also a lot of them. So they occupy maximum space that is they have the maximum letter account in this paragraph and this maximum letter count we know to be a 145. Thank you.