

September 2020

M	7	14	21	28
T	1	8	15	22
W	2	9	16	23
T	3	10	17	24
F	4	11	18	25
S	5	12	19	26
S	6	13	20	27

October 2020

M	5	12	19	26
T	6	13	20	27
W	7	14	21	28
T	8	15	22	29
F	9	16	23	30
S	10	17	24	31
S	11	18	25	

November 2020

M	30	2	9	16
T	3	10	17	24
W	4	11	18	25
T	5	12	19	26
F	6	13	20	27
S	7	14	21	28
S	8	15	22	29

August

WEEK 36

Summer Bank Holiday (UK)

244/122 Monday 31

8.00 am

② Write context free grammar for 5 Regular languages and 5 Non Regular languages and generate 10 words

9.00

For Regular Languages

9.30

} Anything Ending with b

$$(a+b)^* b$$

10.30

$$S \rightarrow AB$$

$$S \rightarrow Xb$$

11.00

$$A \rightarrow aA|n$$

$$X \rightarrow ax|bx|n$$

$$B \rightarrow bB|A$$

11.30

$$S \rightarrow Xb$$

→ ①

Noon

$$X \rightarrow ax|bx|n \rightarrow ②$$

$$S \rightarrow Xb$$

①

$$S \rightarrow axb$$

②

$$S \rightarrow aoxb$$

②

$$S \rightarrow aa\wedge b \rightarrow ②$$

$$S \rightarrow \boxed{aab}$$

12.30

$$S \rightarrow Xb \rightarrow ①$$

$$S \rightarrow n b \rightarrow ②$$

1.00

$$\boxed{S \rightarrow b}$$

$$S \rightarrow Xb$$

①

$$S \rightarrow axb$$

②

$$S \rightarrow ab\wedge b$$

②

$$S \rightarrow \boxed{abb}$$

$$S \rightarrow Xb \rightarrow ①$$

$$S \rightarrow b\times b \rightarrow ②$$

$$S \rightarrow baxb \rightarrow ②$$

$$S \rightarrow \boxed{bab}$$

$$S \rightarrow bab \rightarrow ②$$

$$S \rightarrow Xb \rightarrow ①$$

$$S \rightarrow bxb \rightarrow ②$$

$$S \rightarrow b b \times b \rightarrow ②$$

$$S \rightarrow b b \wedge b \rightarrow ②$$

$$S \rightarrow \boxed{bbb} \rightarrow ②$$

4.00

4.30

5.00

6.00 pm

September

WEEK 36

July 2020							August 2020							September 2020						
M	6	13	20	27	M	31	3	10	17	24	M	7	14	21	28					
T	7	14	21	28	T	4	11	18	25		T	1	8	15	22					
W	1	8	15	22	W	5	12	19	26		W	2	9	16	23					
T	2	9	16	23	T	6	13	20	27		T	3	10	17	24					
F	3	10	17	24	F	7	14	21	28		F	4	11	18	25					
S	4	11	18	25	S	1	8	15	22		S	5	12	19	26					
S	5	12	19	26	S	2	9	16	23		S	6	13	20	27					

1 Tuesday 245/121

8.00 am

$S \rightarrow X b \rightarrow ①$
 8.30 $S \rightarrow a X b \rightarrow ②$
 $S \rightarrow a a u b \rightarrow ②$
 9.00 $S \rightarrow a a a X b \rightarrow ②$
 $S \rightarrow a a a \uparrow b \rightarrow ②$
 9.30 $S \rightarrow [aaa b]$

$S \rightarrow X b \rightarrow ①$
 $S \rightarrow a X b \rightarrow ②$
 $S \rightarrow a a X b \rightarrow ②$
 $S \rightarrow a a b X b \rightarrow ②$
 $S \rightarrow a a b \uparrow b \rightarrow ②$
 $S \rightarrow [aab]$

10.00

words = { b, ab, bb, aab, abb, bab, bbb, aab, aabb }

10.30

2nd languages

Start Anything contain a ending with Anything

11.30

$(a+b)^* a (a+b)^*$

Noon

But CFG

12.30

$S \rightarrow X a X \rightarrow ①$
 $X \rightarrow a X | b X | \uparrow \rightarrow ②$

$S \rightarrow X a X \rightarrow ①$
 $S \rightarrow b X a X \rightarrow ②$
 $S \rightarrow b n a n \rightarrow ②$
 $S \rightarrow [ba]$

1.30 words

2.00

$S \rightarrow X a X \rightarrow ①$
 $S \rightarrow n a n \rightarrow ②$
 $S \rightarrow [a]$

$S \rightarrow X a X \rightarrow ①$
 $S \rightarrow a X a a X \rightarrow ②$
 $S \rightarrow a n a a n \rightarrow ②$
 $S \rightarrow [aa]$

2.30

$S \rightarrow a a t \rightarrow ①$
 $S \rightarrow a X a X \rightarrow ②$
 $S \rightarrow a n a n \rightarrow ②$
 $S \rightarrow [aa]$

$S \rightarrow X a X \rightarrow ①$
 $S \rightarrow a X a b X \rightarrow ②$
 $S \rightarrow a n a b n \rightarrow ②$
 $S \rightarrow [aab]$

4.00

$S \rightarrow X a X \rightarrow ①$
 $S \rightarrow n a b X \rightarrow ②$
 $S \rightarrow n a b n \rightarrow ②$
 $S \rightarrow [ab]$

$S \rightarrow X a X \rightarrow ①$
 $S \rightarrow b X a a X \rightarrow ②$
 $S \rightarrow b n a n \rightarrow ②$
 $S \rightarrow [ba]$

5.00

6.00 pm

October 2020							November 2020							December 2020						
M	5	12	19	26			M	30	2	9	16	23		M	7	14	21	28		
T	6	13	20	27			T	3	10	17	24			T	1	8	15	22	29	
W	7	14	21	28			W	4	11	18	25			W	2	9	16	23	30	
T	1	8	15	22	29		T	5	12	19	26			T	3	10	17	24	31	
F	2	9	16	23	30		F	6	13	20	27			F	4	11	18	25		
S	3	10	17	24	31		S	7	14	21	28			S	5	12	19	26		
S	4	11	18	25			S	1	8	15	22	29		S	6	13	20	27		

246/120 Wednesday 2

8.00 am

$S \rightarrow xax \rightarrow ①$
 8.30 $S \rightarrow ax aax \rightarrow ②$
 $S \rightarrow aax aax \rightarrow ②$
 9.00 $S \rightarrow aa \Lambda aa \Lambda \rightarrow ②$
 $S \rightarrow [aaau]$

9.30
 $S \rightarrow xax \rightarrow ①$
 10.00 $S \rightarrow axabx \rightarrow ②$
 $S \rightarrow aaxabx \rightarrow ②$
 10.30 $S \rightarrow aaabn \rightarrow ②$
 $S \rightarrow [aaab]$

11.00
 $S \rightarrow xat \rightarrow ①$
 11.30 $S \rightarrow axabt \rightarrow ②$
 $S \rightarrow aabat \rightarrow ②$
 Noon $S \rightarrow aaban \rightarrow ②$
 $S \rightarrow [aab]$

12.30 $L = \{a, aa, ab, ba, aaa, aab, baa, aaaa, aaab, aaba\}$

1.00

3rd Regular language

1.30

Starting with ab

2.00

$ab(a+b)^*$

2.30

CFG

3.00 $S \rightarrow abX \rightarrow ①$
 $X \rightarrow ax|bx|\Lambda \rightarrow ②$
 3.30 $S \rightarrow abX \rightarrow ①$
 4.00 $S \rightarrow ab\Lambda \rightarrow ②$
 $S \rightarrow [ab] \rightarrow ①$

5.00

6.00 pm

$S \rightarrow abX \rightarrow ①$
 $S \rightarrow abax \rightarrow ②$
 $S \rightarrow aban \rightarrow ②$
 $S \rightarrow abba \rightarrow ②$
 $S \rightarrow abX \rightarrow ①$
 $S \rightarrow abbX \rightarrow ②$
 $S \rightarrow abb\Lambda \rightarrow ②$
 $S \rightarrow abb \rightarrow ③$

September

WEEK 36

July 2020							August 2020							September 2020						
M	6	13	20	27			M	31	3	10	17	24		M	7	14	21	28		
T	7	14	21	28			T	4	11	18	25			T	1	8	15	22		
W	1	8	15	22	29		W	5	12	19	26			W	2	9	16	23	30	
T	2	9	16	23	30		T	6	13	20	27			T	3	10	17	24		
F	3	10	17	24	31		F	7	14	21	28			F	4	11	18	25		
S	4	11	18	25			S	1	8	15	22	29		S	5	12	19	26		
S	5	12	19	26			S	2	9	16	23	30		S	6	13	20	27		

3 Thursday 247/119

8.00 am

8.30 $S \rightarrow abx \rightarrow ①$
 $S \rightarrow abax \rightarrow ②$
 $S \rightarrow abaax \rightarrow ②$
 $S \rightarrow abaa n \rightarrow ②$
 $S \rightarrow abaq \rightarrow ④$

10.00 $S \rightarrow abx \rightarrow ①$
 $S \rightarrow obax \rightarrow ②$
 $S \rightarrow ababx \rightarrow ②$
 $S \rightarrow ababn \rightarrow ②$
 $S \rightarrow abab \rightarrow ⑤$

Noon $S \rightarrow abx \rightarrow ①$
 $S \rightarrow abbx \rightarrow ②$
 $S \rightarrow abbax \rightarrow ②$
 $S \rightarrow abbabn \rightarrow ②$
 $S \rightarrow abba \rightarrow ⑥$

1.00 $S \rightarrow abx \rightarrow ①$
 $S \rightarrow abbx \rightarrow ②$
 $S \rightarrow abb bx \rightarrow ②$
 $S \rightarrow abb b n \rightarrow ②$
 $S \rightarrow abbb \rightarrow ⑦$

3.00
3.30 Words - $\{ab, aba, abb, abaa, abab, abba, abbb,$
 $abaaa, ababb, abbab\}$

4.00

4.30

5.00

6.00 pm

$S \rightarrow abx \rightarrow ①$
 $S \rightarrow abax \rightarrow ②$
 $S \rightarrow abaon \rightarrow ②$
 $S \rightarrow abaaan \rightarrow ②$
 $S \rightarrow abaaaan \rightarrow ②$

$S \rightarrow abaaa \rightarrow ⑧$

$S \rightarrow abx \rightarrow ①$
 $S \rightarrow abax \rightarrow ②$
 $S \rightarrow ababx \rightarrow ②$
 $S \rightarrow ababbx \rightarrow ②$
 $S \rightarrow ababbn \rightarrow ②$

$\rightarrow ⑨$

$S \rightarrow abx \rightarrow ①$
 $S \rightarrow abbx \rightarrow ②$
 $S \rightarrow abb ax \rightarrow ②$
 $S \rightarrow abb abx \rightarrow ②$
 $S \rightarrow abb abn \rightarrow ②$
 $S \rightarrow abbab \rightarrow ⑩$

September

WEEK 36

October 2020							November 2020							December 2020							
M	5	12	19	26	M	30	2	9	16	23	M	7	14	21	28	T	1	8	15	22	29
T	6	13	20	27	T	3	10	17	24		T	2	9	16	23	W	3	10	17	24	31
W	7	14	21	28	W	4	11	18	25		F	4	11	18	25						
T	1	8	15	22	T	5	12	19	26		F	6	13	20	27	S	5	12	19	26	
F	2	9	16	23	F	6	13	20	27		S	7	14	21	28	S	6	13	20	27	
S	3	10	17	24	S	7	14	21	28		S	6	13	20	27	S	6	13	20	27	
S	4	11	18	25	S	1	8	15	22	29	S	6	13	20	27	S	6	13	20	27	

248/118 Friday 4

8.00 am

Urd Rogerian language

8.30

$$R_e = ab^*ab^*$$

9.00

$$S \rightarrow aXaX \rightarrow ①$$

9.30

$$X \rightarrow bXbn \rightarrow ②$$

$$10.00 S \rightarrow aXaX \rightarrow ①$$

$$S \rightarrow anan \rightarrow ②$$

$$10.30 S \rightarrow aa$$

$$\begin{aligned} S &\rightarrow aXaX \rightarrow ① \\ S &\rightarrow abXabX \rightarrow ② \\ J &\rightarrow abbbXabbX \rightarrow ② \\ S &\rightarrow abbbnabbnn \rightarrow ② \\ S &\rightarrow abbbabb - \\ L &\rightarrow ⑥ \end{aligned}$$

11.00

$$S \rightarrow axax \rightarrow ①$$

$$11.30 S \rightarrow abXax \rightarrow ②$$

$$S \rightarrow abnan \rightarrow ②$$

$$Noon S \rightarrow aba$$

$$\begin{aligned} S &\rightarrow aXaX \rightarrow ① \\ S &\rightarrow abXabX \rightarrow ② \\ S &\rightarrow abbbXabbX \rightarrow ② \\ S &\rightarrow abbbXabbX \rightarrow ② \\ S &\rightarrow abbbabb \rightarrow ② \\ S &\rightarrow abbbabb \rightarrow ② \\ L &\rightarrow ⑦ \end{aligned}$$

12.30

$$S \rightarrow aXaX \rightarrow ①$$

$$1.00 S \rightarrow abXabX \rightarrow ②$$

$$S \rightarrow abnabn \rightarrow ②$$

$$1.30 S \rightarrow abab -$$

$$\begin{aligned} S &\rightarrow aXaX \rightarrow ① \\ S &\rightarrow abXabX \rightarrow ② \\ S &\rightarrow abbbXabbX \rightarrow ② \\ S &\rightarrow abbbXabbX \rightarrow ② \\ S &\rightarrow abbbabb \rightarrow ② \\ S &\rightarrow abbbabb \rightarrow ② \end{aligned}$$

$$2.00 S \rightarrow aXaX \rightarrow ①$$

$$S \rightarrow abXabX \rightarrow ②$$

$$2.30 S \rightarrow abbbXabn \rightarrow ②$$

$$S \rightarrow abb\cap ab \rightarrow ②$$

$$3.00 S \rightarrow abbab$$

L ④

words = {aa, ab, abab, abbab
ababab, aaabb
abbabb, abbabb,
abbbabb }

3.30

$$S \rightarrow aXaX \rightarrow ①$$

$$4.00 S \rightarrow abXabX \rightarrow ②$$

$$S \rightarrow abXabX \rightarrow ②$$

$$4.30 S \rightarrow abnabn \rightarrow ②$$

$$S \rightarrow abab -$$

L ⑤

5.00

6.00 pm

September

WEEK 36

July 2020							August 2020							September 2020						
M	6	13	20	27	M	31	3	10	17	24	M	7	14	21	28					
T	7	14	21	28	T	4	11	18	25	T	1	8	15	22	29					
W	1	8	15	22	W	5	12	19	26	W	2	9	16	23	30					
T	2	9	16	23	T	6	13	20	27	T	3	10	17	24						
F	3	10	17	24	F	7	14	21	28	F	4	11	18	25						
S	4	11	18	25	S	1	8	15	22	S	5	12	19	26						
S	5	12	19	26	S	2	9	16	23	S	6	13	20	27						

5 Saturday 249/117

8.00 am

8.30

$$a(ba+b)^*$$

9.00

$$S \rightarrow a \times b$$

9.30

$$X \rightarrow ax^1bx^1n$$

10.00

$$S \rightarrow a \times b \rightarrow ①$$

10.30

$$S \rightarrow a \wedge b \rightarrow ②$$

11.00

$$S \rightarrow ab$$

$$S \rightarrow a \times b \rightarrow ①$$

$$S \rightarrow a ax b \rightarrow ②$$

$$S \rightarrow aa b \wedge b \rightarrow ②$$

$$S \rightarrow a ab \wedge b \rightarrow ②$$

$$S \rightarrow a ab b$$

11.30

$$S \rightarrow a \times b \rightarrow ①$$

$$S \rightarrow a \times b \rightarrow ①$$

$$S \rightarrow a ax b \rightarrow ②$$

$$S \rightarrow a ax b \rightarrow ②$$

$$S \rightarrow aa \wedge b \rightarrow ②$$

$$S \rightarrow a ab \wedge b \rightarrow ②$$

$$S \rightarrow a ab$$

$$S \rightarrow a ab b \rightarrow ②$$

12.30

$$S \rightarrow a \times b \rightarrow ①$$

$$S \rightarrow a \times b \rightarrow ①$$

$$S \rightarrow a bx b \rightarrow ②$$

$$S \rightarrow a bx b \rightarrow ②$$

$$S \rightarrow ab \wedge b \rightarrow ②$$

$$S \rightarrow ab \wedge b \rightarrow ②$$

$$S \rightarrow abb \rightarrow ①$$

$$S \rightarrow ab b \rightarrow ②$$

2.00

$$S \rightarrow abb \rightarrow ③$$

$$S \rightarrow abab \rightarrow ②$$

$$S \rightarrow a b a b \rightarrow ②$$

5.00

$$L(5)$$

6.00 pm

October 2020							November 2020							December 2020							
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	
5	12	19	26	3	10	17	30	2	9	16	23	4	11	18	1	8	15	22	7	14	21
6	13	20	27	5	12	19	28	3	10	17	24	6	13	20	2	9	16	23	8	15	22
7	14	21	28	8	15	22	29	4	11	18	25	7	14	21	3	10	17	24	9	16	23
1	8	15	22	9	16	23	30	5	12	19	26	10	17	25	4	11	18	26	5	12	19
2	9	16	23	3	10	17	31	6	13	20	27	7	14	21	8	15	22	29	6	13	20
3	10	17	24	4	11	18	25	1	8	15	22	9	16	23	5	12	19	26	7	14	21
4	11	18	25	5	12	19	28	8	15	22	29	6	13	20	3	10	17	24	10	17	25

250/116 Sunday 6

1st Non Regular language

8.00 am

Palindrome Numbers

$$L = a^n b^n$$

9.00

$$\begin{aligned} S &\rightarrow \cancel{XY} \rightarrow ① \\ X &\rightarrow \cancel{aX} / a \rightarrow ② \\ Y &\rightarrow \cancel{bY} / b \rightarrow ③ \end{aligned}$$

10.00

$$S \rightarrow aSa \rightarrow ①$$

$$\begin{aligned} S &\rightarrow aaa \rightarrow ④ \\ &\quad \text{L } ④ \end{aligned}$$

$$\begin{aligned} 10.30 \quad S &\rightarrow \cancel{XX} \\ S &\rightarrow \cancel{ax} \end{aligned}$$

11.00

$$S \rightarrow aSa \rightarrow ①$$

$$S \rightarrow \cancel{asa} \rightarrow ①$$

$$S \rightarrow bSb \rightarrow ②$$

$$S \rightarrow \cancel{aba} \rightarrow ③$$

$$S \rightarrow \cancel{a} \rightarrow ③$$

$$\begin{aligned} S &\rightarrow \cancel{bb} \rightarrow ⑤ \\ &\quad \text{L } ⑤ \end{aligned}$$

$$Noon \quad S \rightarrow a/b \rightarrow ④$$

$$S \rightarrow \cancel{bsb} \rightarrow ②$$

$$S \rightarrow aSa \rightarrow ①$$

$$S \rightarrow \cancel{bab} \rightarrow ③$$

$$S \rightarrow ana \rightarrow ③$$

$$S \rightarrow \cancel{bbb} \rightarrow ⑥$$

$$1.00 \quad S \rightarrow aa \quad \text{L } ①$$

$$S \rightarrow \cancel{asa} \rightarrow ②$$

$$1.30 \quad S \rightarrow \cancel{bsb} \rightarrow ②$$

$$S \rightarrow \cancel{a} \rightarrow ②$$

$$2.00 \quad S \rightarrow b/a/b \rightarrow ③$$

$$S \rightarrow \cancel{abb} \rightarrow ④$$

$$2.30 \quad S \rightarrow bb \quad \text{L } ②$$

$$S \rightarrow \cancel{bab} \rightarrow ②$$

$$3.00 \quad S \rightarrow aSa \rightarrow ②$$

$$S \rightarrow \cancel{a} \rightarrow ②$$

$$S \rightarrow a\cancel{asau}a \rightarrow ②$$

$$S \rightarrow \cancel{bab} \rightarrow ④$$

$$3.30 \quad S \rightarrow a\cancel{aa}aa \rightarrow ③$$

$$S \rightarrow \cancel{abb} \rightarrow ④$$

$$S \rightarrow aaay$$

$$S \rightarrow \cancel{bab} \rightarrow ④$$

$$4.00 \quad S \rightarrow \cancel{aa}y \rightarrow ③$$

$$S \rightarrow \cancel{asa} \rightarrow ②$$

W30845

$$\left. \begin{array}{l} \{ aa, bb, aaaa, aaa, aba, bbb, abbb, abbbab, bbbb, bbbbab \\ abab \rightarrow ababab \} \end{array} \right\}$$

5.00

6.00 pm

September

WEEK 37

July 2020					August 2020					September 2020				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
6	7	8	9	10	11	12	13	14	15	1	2	3	4	5
13	14	15	16	17	18	19	20	21	22	8	9	10	11	12
20	21	22	23	24	25	26	27	28	29	15	16	17	18	19
27					31	1	2	3	4	12	13	14	15	16
					10	11	12	13	14	21	22	23	24	25
					17	18	19	20	21	28	29	30	1	2
					24	25	26	27	28	1	2	3	4	5
					31	1	2	3	4	11	12	13	14	15

Labour Day (CA) Labor Day (US)

7 Monday 251/115

8.00 am

And Non Regular language

$$8.30 \quad L = a^m b^n$$

m > n

m, m z 1

~~9.00~~ ~~S~~ $\rightarrow \alpha X Y$

$$\begin{array}{ccc} S & \rightarrow & CXY \\ X & \rightarrow & CXLa \end{array} \quad \xrightarrow{\hspace{1cm}} \quad \textcircled{A}$$

$$\begin{array}{ccc} \cancel{\text{---}} & ax + a & \rightarrow ② \\ \cancel{y} & bx + b & \rightarrow ③ \end{array}$$

$$\begin{array}{l}
 \text{0.00} \quad S \rightarrow aXY \rightarrow ① \\
 \text{30} \quad S \rightarrow a\cancel{a} \cancel{b} \rightarrow ② \\
 \text{ } \quad S \rightarrow a \cancel{a} b b \rightarrow ③
 \end{array}$$

~~aa bb~~ ①

$S \rightarrow axy \rightarrow ①$

Noon $S \rightarrow aab$

12.30

$S \rightarrow aa\ bS/\emptyset$

1.00

$$S \rightarrow aabs/a$$

1.30 ~~$S \rightarrow aabs$~~

$$2.00 \quad L = a^m b^n$$

$$3.00 \quad S \rightarrow n \quad \rightarrow ③$$

$s \rightarrow a/b/s/g_1/n$

~~S → ababS~~ → ①
S → ~~aabbS~~ → ②
S → ~~aabab~~ → ③
aabab

3.30 Woods

$$S \rightarrow aabs \rightarrow ①$$

4.00 $S \rightarrow aabN \rightarrow ③$

\rightarrow aab
4.30 L(1)

430

5.00

6.00 nm

September

WEEK 37

October 2020				November 2020				December 2020			
M	5	12	19	26	M	30	2	9	16	23	28
T	6	13	20	27	T	3	10	17	24	31	1
W	7	14	21	28	W	4	11	18	25	2	9
F	8	15	22	29	T	5	12	19	26	3	10
S	9	16	23	30	F	6	13	20	27	4	11
S	10	17	24	31	S	7	14	21	28	5	12
S	11	18	25		S	8	15	22	29	6	13

(QND)

252/114 Tuesday 8

8.00 am Non Regular language

$$L = a^n b^{n+2}$$

$$S \rightarrow a S b \rightarrow ①$$

$$S \rightarrow Q b b b \rightarrow ②$$

$$9.00 \quad S \rightarrow a S b / b b \rightarrow ①$$

$$\cdot S \rightarrow b b \rightarrow ②$$

9.30

words

$S = \{ a b b b, a a b b b, a a a b b b b b, a a a a a b b b b b b b, a a a a a a b b b b b b b, \dots \}$

$$10.00 \quad S \rightarrow a S b \rightarrow ①$$

$$S \rightarrow a a S b b \rightarrow ①$$

$$10.30 \quad S \rightarrow a a b b b b \rightarrow ②$$

↳ ①

$$11.00 \quad S \rightarrow a S b \rightarrow ①$$

$$S \rightarrow a b b b \rightarrow ②$$

11.30

↳ abbb

$$Noon \quad S \rightarrow a S b \rightarrow ①$$

$$S \rightarrow a a S b b \rightarrow ①$$

$$12.30 \quad S \rightarrow a a a a s b b b \rightarrow ①$$

$$S \rightarrow a a a a b b b b b b \rightarrow ②$$

1.00

↳ aaa bbbb bbbb

$$1.30 \quad S \rightarrow a S b \rightarrow ①$$

$$S \rightarrow a a S b b \rightarrow ①$$

$$2.00 \quad S \rightarrow a a a a S b b b \rightarrow ①$$

$$S \rightarrow a a a a a S b b b b \rightarrow ①$$

$$2.30 \quad S \rightarrow a a a a a a S b b b b b \rightarrow ①$$

$$S \rightarrow a a a a a a a S b b b b b b \rightarrow ①$$

3.00

$$S \rightarrow a S b \rightarrow ①$$

$$3.30 \quad S \rightarrow a a S b b \rightarrow ①$$

$$S \rightarrow a a a a S b b b \rightarrow ①$$

$$4.00 \quad S \rightarrow a a a a a S b b b b \rightarrow ①$$

$$S \rightarrow a a a a a a S b b b b b \rightarrow ①$$

$$4.30 \quad S \rightarrow a a a a a a a S b b b b b b \rightarrow ①$$

$$S \rightarrow a a a a a a a a S b b b b b b b \rightarrow ①$$

5.00

$$S \rightarrow a a a a a a a a a S b b b b b b b b \rightarrow ②$$

6.00 pm

September

WEEK 37

July 2020				August 2020					September 2020				
M	T	W	T	M	T	W	T	M	T	W	T	F	S
6	13	20	27	31	3	10	17	24	1	8	15	22	29
T	7	14	21	28	4	11	18	25	2	9	16	23	30
W	1	8	15	22	5	12	19	26	3	10	17	24	
T	2	9	16	23	6	13	20	27	4	11	18	25	
F	3	10	17	24	7	14	21	28	5	12	19	26	
S	4	11	18	25	8	15	22	29	6	13	20	27	
S	5	12	19	26	9	16	23	30					

9 Wednesday 253/113

3

8.00 am

$$\textcircled{3} \quad a^{2n} b^n \quad n \geq 1$$

8.30

$$S \rightarrow a \underset{S}{\overset{\sim}{\longrightarrow}} b / \rho \rightarrow \textcircled{1}$$

$$S \rightarrow c \rightarrow \textcircled{2}$$

9.30 $S \rightarrow a a s b \rightarrow ①$
10.00 $S \rightarrow d \rightarrow ②$

10.30 $S \rightarrow aasb \rightarrow ①$
 $S \rightarrow aaNb \rightarrow ②$

11.00 $S \rightarrow aab$ $\hookrightarrow ①$

11.30

Noon

12.30 $S \rightarrow aa\alpha asb b \rightarrow ①$
 $S \rightarrow aa\alpha a \cap b b \rightarrow ②$
 1.00 $S \rightarrow aaa\alpha bb \rightarrow ②$

$$1.30 \quad S \rightarrow a a S b \rightarrow ①$$

$S \rightarrow au \quad aasb \quad b \rightarrow ①$

2.00 $S \rightarrow aa \cdot au \quad aasb \quad bb \rightarrow \emptyset$

$S \rightarrow aaaaaaabb \rightarrow ②$

2.30 $S \rightarrow aa\alpha a\alpha bbb$

L ③

3.00

$s \rightarrow aasb$

→ ①

$$3.30 \quad S \rightarrow aa \quad aasb \quad b \quad \rightarrow ①$$

$S \rightarrow \alpha a \alpha a \quad a a s b \quad b b \rightarrow 1$

$$4.00 \quad S \rightarrow aa \quad aq \quad aq \quad aasb \quad bbb \rightarrow ①$$

$S \rightarrow aaauauau \quad bb \quad bbbb \rightarrow ②$

4.30 $\hookrightarrow \mathfrak{g}$

\hookrightarrow

5.00

6.00 pm

October 2020							November 2020							December 2020							
M	5	12	19	26	M	30	2	9	16	23	M	7	14	21	28	T	1	8	15	22	29
T	6	13	20	27	T	3	10	17	24		T	2	9	16	23	W	3	10	17	24	31
W	7	14	21	28	W	4	11	18	25		F	4	11	18	25	F	5	12	19	26	
Th	1	8	15	22	Th	5	12	19	26		S	5	12	19	26	S	6	13	20	27	
F	2	9	16	23	F	6	13	20	27		S	7	14	21	28	S	6	13	20	27	
S	3	10	17	24	S	7	14	21	28		S	8	15	22	29	S	6	13	20	27	
S	4	11	18	25	S	1	8	15	22	29	S	9	16	23	30	S	6	13	20	27	

254/112 Thursday 10

8.00 am

words generating from this

8.30

= $\{ aab, aaaabb, aaaaabbb, aaaaaaaa bbbb \}$
 $aaaaacccaa bbbb, \dots \}$

9.00

| 48th Non Regular Language.

10.00

10.30

~~L = {aab^n}~~ $n \geq 1$

~~S $\rightarrow AS_1$~~

11.00

~~S $\rightarrow asb/n$~~

~~D~~

11.30

$S \rightarrow AS_1 \rightarrow ①$

$S_1 \rightarrow asib/n \rightarrow ②$

Noon

$A \rightarrow aa/a \rightarrow ③$

12.30

$S \rightarrow AS_1 \rightarrow ①$

$S \rightarrow a^n \rightarrow ②$

1.00

$S \rightarrow a \rightarrow ①$

1.30

$S \rightarrow AS_1 \rightarrow ①$

$S \rightarrow aa asib \rightarrow ②$

2.00

$S \rightarrow a^n a^n b \rightarrow ③$

$S \rightarrow aab \rightarrow ②$

2.30

$S \rightarrow AS_1 \rightarrow ①$

$S \rightarrow a^n asib \rightarrow ②$

3.30

$S \rightarrow aa asib b \rightarrow ②$

$S \rightarrow a^n a^n b b \rightarrow ③$

4.00

$S \rightarrow aac/bb \rightarrow ③$

4.30

5.00

6.00 pm

September

WEEK 37

July 2020							August 2020							September 2020						
M	6	13	20	27			M	31	3	10	17	24		M	7	14	21	28		
T	7	14	21	28			T	4	11	18	25			T	1	8	15	22		
W	1	8	15	22	29		W	5	12	19	26			W	2	9	16	23	30	
T	2	9	16	23	30		T	6	13	20	27			T	3	10	17	24		
F	3	10	17	24	31		F	7	14	21	28			F	4	11	18	25		
S	4	11	18	25			S	1	8	15	22	29		S	5	12	19	26		
S	5	12	19	26			S	2	9	16	23	30		S	6	13	20	27		

11 Friday 255/111

8.00 am

$S \rightarrow AS_1 \rightarrow ①$

8.30 $S \rightarrow AA \text{ asib} \rightarrow ②$

$S \rightarrow AAA \text{ asib} \rightarrow ②$

9.00 $S \rightarrow aaaa \text{ aNb} \rightarrow ③$

9.30 $S \rightarrow aaaa b$
L ④

10.00 $S \rightarrow AS_1$

$S \rightarrow a \text{ asib} \rightarrow ②$

10.30 $S \rightarrow aa \text{ asib b} \rightarrow ②$

$S \rightarrow aa \text{ asib bb} \rightarrow ②$

11.00 $S \rightarrow aaaa \text{ Nbbb} \rightarrow ③$

11.30 $S \rightarrow aaaa bbb$
L ⑤

Noon $S \rightarrow AS_1$

$S \rightarrow AA \text{ asib} \rightarrow ②$

12.30 $S \rightarrow AaA \text{ a asib b} \rightarrow ②$

$S \rightarrow aa.AA \text{ a a asib bb} \rightarrow ②$

1.00 $S \rightarrow aaaa \text{ aqa Nbbb} \rightarrow ③$

) $\rightarrow aq aa aqa bbb$

1.30

words

2.00

L $\rightarrow \{a, ab, aabb, aaaab, aaabbb,$
 $aq aa aqa bbb\}$

2.30

3.00

3.30

4.00

4.30

5.00

6.00 pm

September

WEEK 37

October 2020							November 2020							December 2020							
M	5	12	19	26	M	30	2	9	16	23	M	7	14	21	28	T	1	8	15	22	29
T	6	13	20	27	T	3	10	17	24		T	2	9	16	23	W	2	9	16	23	30
W	7	14	21	28	W	4	11	18	25		T	3	10	17	24	T	3	10	17	24	31
F	8	15	22	29	T	5	12	19	26		F	4	11	18	25	S	5	12	19	26	
S	9	16	23	30	F	6	13	20	27		S	6	13	20	27	S	6	13	20	27	
S	10	17	24	31	S	7	14	21	28		S	7	14	21	28	S	6	13	20	27	
S	11	18	25		S	8	15	22	29		S	6	13	20	27	S	6	13	20	27	
					S	1	8	15	22	29	S	6	13	20	27						

256/110 Saturday 12

8.00 am 5th language

8.30 Number of a and b equal order does not matter

9.00

9.30 $S \rightarrow a \underset{\textcircled{1}}{S} b | b \underset{\textcircled{2}}{S} a | d \underset{\textcircled{3}}{S}$

10.00

$S \rightarrow a S b \rightarrow \textcircled{1}$

$S \rightarrow a \cap b \rightarrow \textcircled{3}$

$S \rightarrow a b$

$S \rightarrow a S b \rightarrow \textcircled{1}$

$S \rightarrow a b S a b \rightarrow \textcircled{2}$

$S \rightarrow a b b S a b \rightarrow \textcircled{2}$

$S \rightarrow a b b b \cap a a b \rightarrow \textcircled{2}$

$S \rightarrow a b b a a b$

11.00

$S \rightarrow b S a \rightarrow \textcircled{2}$

$S \rightarrow b \cap a \rightarrow \textcircled{3}$

$S \rightarrow b a$

$S \rightarrow b S a \rightarrow \textcircled{2}$

$S \rightarrow b b S a a \rightarrow \textcircled{2}$

$S \rightarrow b b b S a a a \rightarrow \textcircled{3}$

$S \rightarrow b b b b \cap a a a \rightarrow \textcircled{3}$

$S \rightarrow b b b a a a$

Noon

$S \rightarrow a S b$

$S \rightarrow a a s b b \rightarrow \textcircled{2}$

$S \rightarrow a a \cap b b \rightarrow \textcircled{3}$

$S \rightarrow a a b b$

$S \rightarrow b S a \rightarrow \textcircled{2}$

$S \rightarrow b b S a a \rightarrow \textcircled{2}$

$S \rightarrow b b b S a a a \rightarrow \textcircled{3}$

$S \rightarrow b b b b S a a a \rightarrow \textcircled{3}$

1.30

$S \rightarrow b S a \rightarrow \textcircled{2}$

$S \rightarrow b a s b a \rightarrow \textcircled{1}$

$S \rightarrow b a \cap b a \rightarrow \textcircled{3}$

$S \rightarrow b a b a \rightarrow \textcircled{1}$

$S \rightarrow a S b$

$S \rightarrow a a S b b \rightarrow \textcircled{2}$

$S \rightarrow a a a S b b b \rightarrow \textcircled{2}$

$S \rightarrow a a a a S b b b b \rightarrow \textcircled{2}$

2.00

$S \rightarrow b a \cap b a \rightarrow \textcircled{3}$

$S \rightarrow b a b a \rightarrow \textcircled{1}$

2.30

$S \rightarrow a S b$

$S \rightarrow a a S b b \rightarrow \textcircled{1}$

$S \rightarrow a a a S b b b \rightarrow \textcircled{2}$

$S \rightarrow a a a a S b b b b \rightarrow \textcircled{2}$

$S \rightarrow a a a a S b b b b \rightarrow \textcircled{2}$

$S \rightarrow a a a a a S b b b b b \rightarrow \textcircled{2}$

$S \rightarrow a a a a a a S b b b b b b \rightarrow \textcircled{2}$

3.00

$S \rightarrow a S b$

$S \rightarrow a a S b b \rightarrow \textcircled{1}$

$S \rightarrow a a a S b b b \rightarrow \textcircled{2}$

$S \rightarrow a a a a S b b b b \rightarrow \textcircled{2}$

$S \rightarrow a a a a a S b b b b b \rightarrow \textcircled{2}$

3.30

$S \rightarrow a b \cap a b \rightarrow \textcircled{2}$

$S \rightarrow a b \cap a b \rightarrow \textcircled{3}$

4.00

$S \rightarrow a b a b$

\hookleftarrow

4.30

$\{ ab, ba, bab, abc b, abbaab, bbbbaaa, aaaa bbb, \}$

5.00

6.00 pm

September

WEEK 38

October 2020							November 2020							December 2020						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
5	12	19	26	3	10	17	30	2	9	16	23	7	14	21	1	8	15	22	29	1
6	13	20	27	9	16	23	3	10	17	24	11	18	25	2	9	16	23	30	2	
7	14	21	28	16	23	30	4	11	18	25	12	19	26	3	10	17	24	31	3	
8	15	22	29	9	16	23	5	12	19	26	13	20	27	4	11	18	25	12	19	26
9	16	23	30	10	17	24	6	13	20	27	14	21	28	5	12	19	26	13	20	27
10	17	24	31	11	18	25	7	14	21	28	15	22	29	6	13	20	27	14	21	28

258/108 Monday 14

8.00 am

Let $L = a^n b^n$ is Regular language
there exist a DFA has states

9.00

$$w = a^n b^n$$

9.30

$$\text{let } n = 12$$

10.00

$$w = a^{2(12)} b^{12}$$

10.30

$$w = a^{24} b^{12}$$

11.00

divide into $x y z$

11.30

$$x = a^{20}$$

$$y = a^4$$

Noon

$$z = b^{12}$$

12.30

$$|x| + |y| \leq 56$$

Pumping

1.00

$$\begin{array}{cccc} x & y & y & z \\ a^{20} & a^4 & a^4 & b^{12} \end{array}$$

1.30

$a^{28} b^{12}$ does not belong to L

2.00

that's why the proof L is non Regular language.

2.30

3.00

3.30

4.00

4.30

5.00

6.00 pm