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Past Papers by Waqar Siddhu
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Which statement is true?

Answer (Please select your correct option)

VuAnswers.com

All words are strings

Lec 1,page:4

All strings are words

Both are always same

All letter are string

Made by: Waqar Siddhu

If L1 and L2 are expressed by r1 and r2, respectively then the language expressed by $(r1)(r2)$ will be _____

Answer (Please select your correct option)

VuAnswers.com

Regular

Lec:4,page:10

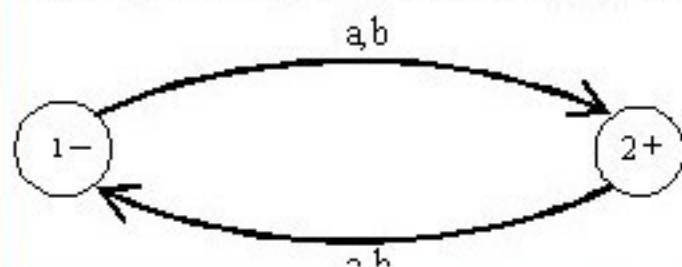
Ir-regular

Undermined

Such language does not exist

Made by: Waqar Siddhu

Below given FA generates the language having strings of _____



Answer (Please select your correct option)

VuAnswers.com

ODD length conceptual $RE=(a+b)((a+b)(a+b))^*$

EVEN length

Equal number of a's and b's

Odd number of a's and b's

Made by: Waqar Siddhu

If an FA accepts no string, then language is denoted by _____

Answer (Please select your correct option)

VuAnswers.com

$\{\}$

\emptyset

Both $\{\}$ and \emptyset

Lec:6,page:16

Null

Made by: Waqar Siddhu

Using tree structure, initial state can be represented by_____

Answer (Please select your correct option)

VuAnswers.com

An arrow

for J.C.Martin tree structure

lec:7,page:18

+

-

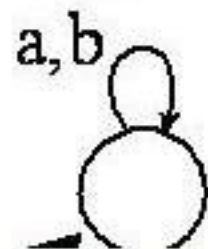
for simple tree structure

lec:7,page:17

*

Made by: Waqar Siddhu

Below given FA accepts _____ language.



Answer (Please select your correct option)

VuAnswers.com

Finite

page 17

Infinite

No

All

Made by: Waqar Siddhu

Even-palindrome is a _____ language

Answer (Please select your correct option)

VuAnswers.com

non-regular

conceptual

page 70

regular

regular but infinite

regular but finite

Made by: Waqar Siddhu

If L_1 and L_2 are two regular languages, then _____ is/are also regular.

Answer (Please select your correct option)

VuAnswers.com

Both $L_1 \cup L_2, L_1 \cap L_2$ concept

$L_1 \cap L_2$

$L_1 \cup L_2$

$L_1 \cap L_2$

Made by: Waqar Siddhu

Consider the language L of strings, defined over $\Sigma = \{a,b\}$, ending in a

Answer (Please select your correct option)

VuAnswers.com

There are finite many classes generated by L, so L is regular **Lec:27,page:76**

There are infinite many classes generated by L, so L is regular

There are finite many classes generated by L, so L is non-regular

There are infinite many classes generated by L, so L is non-regular

Made by: Waqar Siddhu

Pumping lemma is generally used to prove that:

Answer (Please select your correct option)

VuAnswers.com

A given language is infinite

A given language is not regular

Conceptual

Whether two given regular expressions of a regular language are equivalent or not

A given language is finite

Made by: Waqar Siddhu

If the FA has N states, then test the words of length less than N . If any one word is accepted by this FA, then it will accept ____ word.

Answer (Please select your correct option)

VuAnswers.com

All Lecture:30,page:85 concept

No

One

Two

Made by: Waqar Siddhu

Which of the following pairs of regular expressions are equivalent?

Answer (Please select your correct option)

VuAnswers.com

$1(001)^*$ and $(10)^*10$

$x(xx)^*$ and $(x)^*x$

concept

x^+ and x^*

x^+ and x^*x^+

Made by: Waqar Siddhu

Which of the following pairs of regular expressions are not equivalent?

Answer (Please select your correct option)

VuAnswers.com

$(ab)^*$ and a^*b^*

$x(xx)^*$ and $(xx)^*x$

x^+ and x^*x^+

concept

$x(x)^*$ and $(x)^*x$

Made by: Waqar Siddhu

Which of the following statement is correct?

Answer (Please select your correct option)

VuAnswers.com

The length of output string is greater than length of input string in moore machine.

The length of output string is greater than length of input string in mealy machine.

The length of output string is equal to length of input string in moore machine.

The length of output string is less than length of input string in mealy machine.

Made by: Waqar Siddhu

There exist _____ derivations of a certain word in ambiguous grammar.

Answer (Please select your correct option)

VuAnswers.com

more than one

Exactly one

exactly two

no

Made by: Waqar Siddhu

Which one of the following statements is INCORRECT:

Answer (Please select your correct option)

VuAnswers.com

$(a+b)^*aa(a+b)^*$ generates Regular language.

A language consisting of all strings over $\Sigma=\{a,b\}$ having equal number of a's and b's is a regular language

Lec:26,page:73

Every language that can be expressed by FA can also be expressed by RE

None of these

Made by: Waqar Siddhu

We can also represent an FA using different states e.g. Accept state, Reject state, Read State etc.
The _____ state behaves as final state of an FA.

Answer (Please select your correct option)

VuAnswers.com

Accept **Lec:37,page:105**

Pop

Push

Reject

Made by: Waqar Siddhu

CYK algorithm was invented by John Cocke and later was published by _____

Answer (Please select your correct option)

VuAnswers.com

Talik Khon and Daniel H

Tandao Kasami and Daniel H

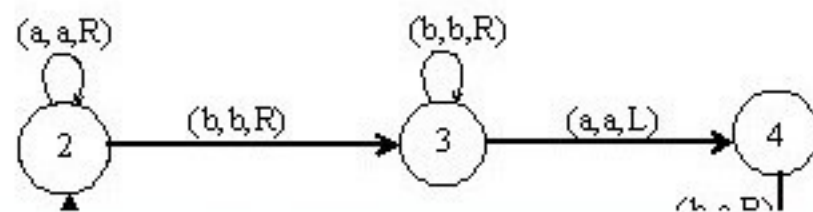
Lec:44,page:135

Tandao Dagger and Daniel H

Talik Khon

Made by: Waqar Siddhu

Consider the following TM



Answer (Please select your correct option)

VuAnswers.com

Above TM accepts the non-CFL $\{ a b c \}$.

Above TM accepts the non-CFL $\{ a^n b^n a^n \}$.

Lec:45,page:142

Above TM accepts the non-CFL $\{ a^n b^{n+2} a^n \}$.

Above TM accepts the non-CFL $\{ a^{n+2} b^n a^n \}$.

Made by: Waqar Siddhu

$\Sigma = \{a,b\}$ then string abbabb has length equal to _____.

Answer (Please select your correct option)

VuAnswers.com

Three

Four

Five

Six

No.of letters in string=length

Made by: Waqar Siddhu

The language generated by CFG is called _____.

Answer (Please select your correct option)

VuAnswers.com

Infinite



Context Free Language (CFL)

Lec:31,page:83



Regular



Finite



Made by: Waqar Siddhu

If r_1 and r_2 are regular expressions then $(r_1)(r_2)$ is a _____.

Answer (Please select your correct option)

VuAnswers.com

RE

Lec:3,page:9

TG

FA

GTG

Made by: Waqar Siddhu

Which of the following is RE for a language defined over $\Sigma=\{a,b\}$ having words starting with a:

Answer (Please select your correct option)

VuAnswers.com

$(a + b)^*$

$aa(a + b)^+$

$a(a + b)^*$

lec:4,page:12

$a^*(a + b)$

Made by: Waqar Siddhu

The _____ machine helps in building a machine that can perform the addition of binary numbers.

Answer (Please select your correct option)

VuAnswers.com

Incrementing

lec:22,page:60

Complementing

Decrementing

Multiplication

Made by: Waqar Siddhu

Left hand side of a production in Context free grammar (CFG) consists of _____.

Answer (Please select your correct option)

VuAnswers.com

One terminal

More than one terminal

One non-terminal

Lec:31,page:87

Terminals and non-terminals

Made by: Waqar Siddhu

A regular language _____ .

Answer (Please select your correct option)

VuAnswers.com

Must be finite

Must be infinite

Can be finite or infinite

concept

Complex Language

Made by: Waqar Siddhu

If a language can be expressed by a regular expression, then its complement is _____.

Answer (Please select your correct option)

VuAnswers.com

Regular **lec:23,page:66**

Non Regular

Finite

Infinite

Made by: Waqar Siddhu

If a given Context Free grammar (CFG) contains a production of the form $S \rightarrow \Lambda$, then _____

Answer (Please select your correct option)

VuAnswers.com

The corresponding CFL is not empty.

concept

The corresponding CFL is empty.

The corresponding CFL is not empty if the language is regular

The corresponding CFL is empty and non regular.

Made by: Waqar Siddhu

Can a turing machine's head ever be in the same location in two successive steps?

Answer (Please select your correct option)

VuAnswers.com

Yes

Yes but only in finite languages

No

Yes but only in infinite languages

Made by: Waqar Siddhu

In _____ there are Finite set of states containing exactly one START state and some (may be none) HALT states that cause execution to terminate, when the HALT states are entered.

Answer (Please select your correct option)

VuAnswers.com

TG

Turing Machine

Lec 45

GTG

Finite Automata

Made by: Waqar Siddhu

Which of the following statement(s) is/are true or false?

- 1) The turing machine is similar to a finite automaton but with an unlimited and unrestricted memory.
- 2) A Turing machine is a much more accurate model of a general purpose computer.

Answer (Please select your correct option)

VuAnswers.com

Statement 1 is true

Both statements true

Statement 2 is true

Both statements (1 & 2) are false

Statement 2 is false

Made by: Waqar Siddhu

We can have more than one parse trees for a given string in case of _____ Context Free Grammar (CFG).

Answer (Please select your correct option)

VuAnswers.com

vague



ambiguous

Lec:33,page:95



hazy



simple



Made by: Waqar Siddhu

The language of $a^n b^n$ can be expressed by:

Answer (Please select your correct option)

VuAnswers.com

FA



TG



GTG



PDA



concept (non regular language)

Made by: Waqar Siddhu

Which of the following theorem partitions Σ^* into distinct classes?

Answer (Please select your correct option)

VuAnswers.com

Decidability theorem

Myhill Nerode theorem

Lec:27,page:75

Kleen's theorem

Emptiness theorem

Made by: Waqar Siddhu

The languages are supposed to be _____ in case of testing pumping lemma.

Answer (Please select your correct option)

VuAnswers.com

context free

irregular

both regular and irregular

regular

Made by: Waqar Siddhu

Consider the following Context Free Grammar (CFG):

$$S \rightarrow SX|XY$$
$$X \rightarrow ZZ$$
$$Y \rightarrow 1$$
$$Z \rightarrow 0$$

Answer (Please select your correct option)

VuAnswers.com

00100

0010000

001

00010

Made by: Waqar Siddhu

A read state can have _____ outgoing edge/ edges.

Answer (Please select your correct option)

VuAnswers.com

1



2



3



Any number of

Lec:38,page:112

Made by: Waqar Siddhu

Which of the following states do not have outgoing edges:

Answer (Please select your correct option)

VuAnswers.com

Start

Read

Pop

Accept

Lecture 37

Made by: Waqar Siddhu

Consider the following Context Free Grammar (CFG):

$S \rightarrow 01A$

$A \rightarrow 10B$

$B \rightarrow 0A | 11$

Answer (Please select your correct option)

VuAnswers.com

011011

011011011

011001011

011001001011

Made by: Waqar Siddhu

Let us consider the following Turing machine (T_M):

(y, Y, R)

(f, f, L)

(f, f, R)

(v, v, L)

Answer (Please select your correct option)

VuAnswers.com

fffgggg

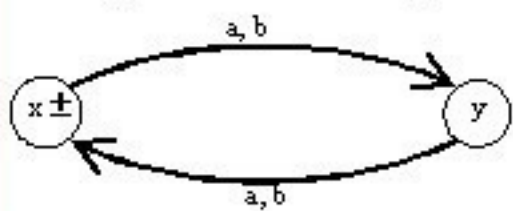
fffgggff

fffggg

fffggg

Made by: Waqar Siddhu

Below given FA can be represented by



Answer (Please select your correct option)

VuAnswers.com

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

lec:5 ,page:13

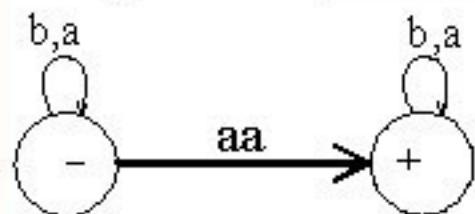
$(a + b)(a + b)^*$

$(a + b)(a + b)$

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

Made by: Waqar Siddhu

Below given TG has _____ RE.



Answer (Please select your correct option)

VuAnswers.com

(b+a) (aa) (b+a)*

(a+b) (aa) (a+b)*

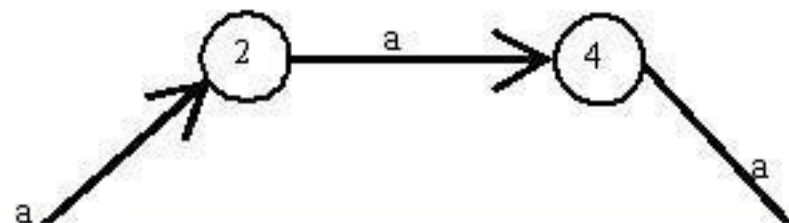
(a+b)* (aa) (a+b)*

lec:8,page:20

(a+b)* (aa) (a+b)

Made by: Waqar Siddhu

Below given TG's are _____.



Answer (Please select your correct option)

VuAnswers.com

non-symmetric

Equivalent

page 21

Non-equivalent

TG's are not valid

Made by: Waqar Siddhu

"One GTG can generate _____ language".

Answer (Please select your correct option)

VuAnswers.com

more than one

only one

Concept

only two

only three

Made by: Waqar Siddhu

Even-palindrome is a _____ language

Answer (Please select your correct option)

VuAnswers.com

non-regular **Lec:25,page:71**

regular

regular but infinite

regular but finite

Made by: Waqar Siddhu

If L_1 and L_2 are two regular languages, then _____ is/are also regular.

Answer (Please select your correct option)

VuAnswers.com

Both $L_1 \cup L_2$, $L_1 \cap L_2$ lec 24, page 65 $L_1 + L_2 = L_1 \cup L_2$ and on page 67

$L_1 \cap L_2$

$L_1 \cup L_2$

$L_1 \cap L_2$

Made by: Waqar Siddhu

If the FA has N states, then test the words of length less than N. If any one word is accepted by this FA, then it will accept ____ word.

Answer (Please select your correct option)

VuAnswers.com

All Lec:30,page:85 concept

No

One

Two

Made by: Waqar Siddhu

Which of the following pairs of regular expressions are equivalent?

Answer (Please select your correct option)

VuAnswers.com

1(001)* and (10)*10

x(xx)* and (x)*x

concept

x⁺ and x*

x⁺ and x*x⁺

Made by: Waqar Siddhu

An alphabet of Σ is valid if

Answer (Please select your correct option)

VuAnswers.com

No letter of Σ appears in middle of any other letter

No letter of Σ appears at end of any other letter

No letter of Σ appears at start of any other letter

Lec:1,page:4

No letter of Σ appears at end or middle of any other letter

Made by: Waqar Siddhu

Which of the following pairs of regular expressions are not equivalent?

Answer (Please select your correct option)

VuAnswers.com

$(ab)^*$ and a^*b^*

$x(xx)^*$ and $(xx)^*x$

x^+ and x^*x^+

Concept

$x(x)^*$ and $(x)^*x$

Made by: Waqar Siddhu

There exist _____ derivations of a certain word in ambiguous grammar.

Answer (Please select your correct option)

VuAnswers.com

more than one

Exactly one

exactly two

no

Made by: Waqar Siddhu

Regular languages are closed under _____

Answer (Please select your correct option)

VuAnswers.com

Union and Concatenation

Concept

Union and Division

Union and Exponent

Union and Factorial

Made by: Waqar Siddhu

Which one of the following statements is INCORRECT:

Answer (Please select your correct option)

VuAnswers.com

Lec:26,page:73

A language consisting of all strings over $\Sigma=\{a,b\}$ having equal number of a's and b's is a regular language

Every language that can be expressed by FA can also be expressed by RE

None of these

$(a+b)^*aa(a+b)^*$ generates Regular language.

Made by: Waqar Siddhu

TM is more powerful than FSM because

Answer (Please select your correct option)

VuAnswers.com

The tape movement is confined to one direction

It has no finite state control

It has the capability to remember arbitrary long sequences of input symbols

The tape movement is confined to more than one directions

Made by: Waqar Siddhu

CYK algorithm was invented by John Cocke and later was published by ____

Answer (Please select your correct option)

VuAnswers.com

Talik Khon and Daniel H

Tandao Kasami and Daniel H

lec:44,page:135

Tandao Dagger and Daniel H

Talik Khon

Made by: Waqar Siddhu

The process of finding the derivation of word generated by particular grammar is called _____

Answer (Please select your correct option)

VuAnswers.com

Processing

Parsing

Lec:44,page:136

Programming

Planing

Made by: Waqar Siddhu

There are different parsing techniques, including _____

Answer (Please select your correct option)

VuAnswers.com

Top down parsing

Bottom up parsing

Parsing technique for particular grammar of arithmetic expression

All of these

Lec:44,page:136

Made by: Waqar Siddhu

$\Sigma = \{a, Aa, Abb\}$, then string $aAaAbbAa$ has length equal to _____.

Answer (Please select your correct option)

VuAnswers.com

Three



Four



concept

One



Two



Made by: Waqar Siddhu

The language generated by CFG is called _____.

Answer (Please select your correct option)

VuAnswers.com

Infinite



Context Free Language (CFL)

Lec:31,page:88



Regular



Finite



Made by: Waqar Siddhu

In _____ there must be transition for all letters.

Answer (Please select your correct option)

VuAnswers.com

NFA



FA

Lec:4,page:11



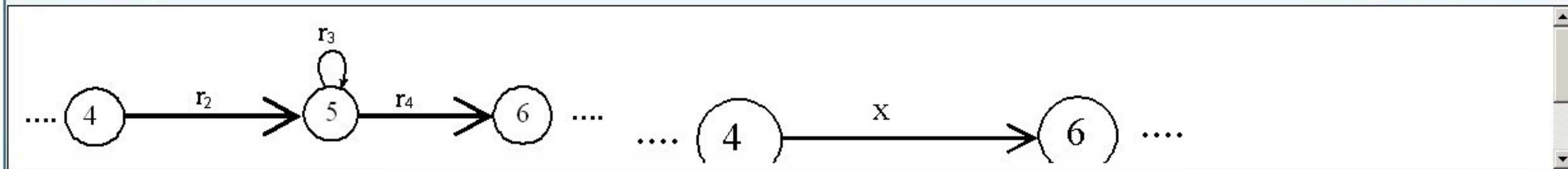
TG



GTG



Made by: Waqar Siddhu



Answer (Please select your correct option)

VuAnswers.com

$r_1^* r_2 r_3^*$

$(r_1 r_2 r_3)^*$

$r_1^* r_2^* r_3^*$

None of the given incomplete Q..RE of ist is $r_2 r_3^* r_4$

Made by: Waqar Siddhu

A regular language _____.

Answer (Please select your correct option)

VuAnswers.com

Must be finite

Must be infinite

Can be finite or infinite

concept

Complex Language

Made by: Waqar Siddhu

If a language can be expressed by a regular expression, then its complement is _____.

Answer (Please select your correct option)

VuAnswers.com

Regular **Lec:24,page:66**

Non Regular

Finite

Infinite

Made by: Waqar Siddhu

For every Context Free Grammar (CFG), we can make the corresponding _____.

Answer (Please select your correct option)

VuAnswers.com

FA



TG



PDA



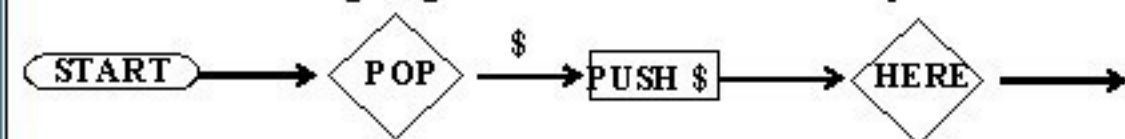
Lec:39,page:111

Regular Grammar



Made by: Waqar Siddhu

Look at the following diagram and select the correct option:



Answer (Please select your correct option)

VuAnswers.com

The PDA must not begin with the sequence

The PDA may begin with the sequence

The PDA must begin with the sequence

Lec:40,page:119

The PDA may not begin with the sequence

Made by: Waqar Siddhu

Consider the following Context Free Grammar (CFG) and select the correct choice

 $S \rightarrow AB$ $A \rightarrow BSB \mid a \mid b$ $B \rightarrow CC$ $C \rightarrow SS \mid b \mid bb$

Answer (Please select your correct option)

VuAnswers.com

abb is a word in the corresponding CFL.

concept

abb is not the word of corresponding CFL.

Any word can be accepted from the corresponding CFL.

b is a word in the corresponding CFL.

Made by: Waqar Siddhu

Which of the following statement(s) is/are true or false?

- 1) The turing machine is similar to a finite automaton but with an unlimited and unrestricted memory.
- 2) A Turing machine is a much more accurate model of a general purpose computer.

Answer (Please select your correct option)

VuAnswers.com

Statement 1 is true

Mentioned in lec 45

Statement 2 is true

Both are true..check link
in moazz file

Both statements (1 & 2) are false

Statement 2 is false

Made by: Waqar Siddhu

Language of strings having even number of a's is considered to be:

Answer (Please select your correct option)

VuAnswers.com

Regular

Lec:3,page:9

Irrelgular

Irregular and infinite

Irregular and finite

Made by: Waqar Siddhu

If we have two transition graphs then their union will be expressed by:

Answer (Please select your correct option)

VuAnswers.com

Lec:24,page:65

taking a common start state and joining them by two null transitions

just connecting both start states by null transitions

connecting final state of first TG to the initial state of second TG

connecting the final state of first TG to the final state of second TG

Made by: Waqar Siddhu

A language of strings of prime length is considered to be:

Answer (Please select your correct option)

VuAnswers.com

regular but infinite

regular

irregular

Lec:27,page:75

regular but finite

Made by: Waqar Siddhu

_____ and _____ are removed in order to make a CFG in Chomsky Normal Form (CNF).

Answer (Please select your correct option)

VuAnswers.com

Null, nullable productions

Nullable, unit productions

Null, unit productions

Lec:36,page:102

Strings of length 0, null

Made by: Waqar Siddhu

The languages are supposed to be _____ in case of testing pumping lemma.

Answer (Please select your correct option)

VuAnswers.com

context free

irregular

both regular and irregular

regular

mentioned in video lec:27:P can check exm

Made by: Waqar Siddhu

Which of the following refers to an effectively solvable problem having answer in "Yes" or "No"?

Answer (Please select your correct option)

VuAnswers.com

Decision procedure

Lec:29,page:80

Logical problem

Analytical problem

Binary procedure

Made by: Waqar Siddhu

Consider the following Context Free Grammar (CFG):

$S \rightarrow SX|XY$

$X \rightarrow ZZ$

$Y \rightarrow 0$

$Z \rightarrow 1$

Answer (Please select your correct option)

VuAnswers.com

110

11011

1101111

11101

Made by: Waqar Siddhu

Consider the following Context Free Grammar (CFG):

 $S \rightarrow SX|XY$ $X \rightarrow ZZ$ $Y \rightarrow 1$ $Z \rightarrow 0$

Answer (Please select your correct option)

VuAnswers.com

001

00010

0010000

00100

Made by: Waqar Siddhu

Which of the following is a regular Context Free Grammar:

Answer (Please select your correct option)

VuAnswers.com

$S \rightarrow abS \mid baS \mid \wedge$

$S \rightarrow aSb \mid baS \mid \wedge$

$S \rightarrow abS \mid bSa \mid \wedge$

$S \rightarrow aSb \mid Sa \mid \wedge$

Made by: Waqar Siddhu

Concatenation of r1 and r2 will be shown as:

Answer (Please select your correct option)

VuAnswers.com

r1+r2

r2+r1

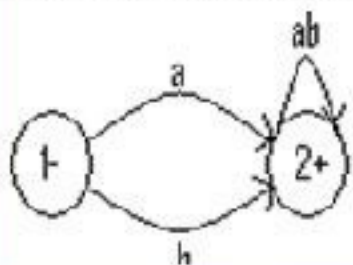
r2r1

r1r2

Lec:13,page:35

Made by: Waqar Siddhu

How many steps are required to convert the given transition graph into a regular expression?



Answer (Please select your correct option)

VuAnswers.com

1 step

2 steps firstly a & b combine to form a+b and in 2nd step loop of ab combine $\Rightarrow (a+b)ab^*$

3 steps

4 steps

Made by: Waqar Siddhu

A nonterminal is said to be self-embedded, if in a given derivation of a word, it ever occurs as a tree _____ of itself.

Answer (Please select your correct option)

VuAnswers.com

ascendant

descendant

Lec:43,page:127

top

bottom

Made by: Waqar Siddhu

_____ is always Deterministic.

Answer (Please select your correct option)

VuAnswers.com

Finite Automaton

lec:10,page:25

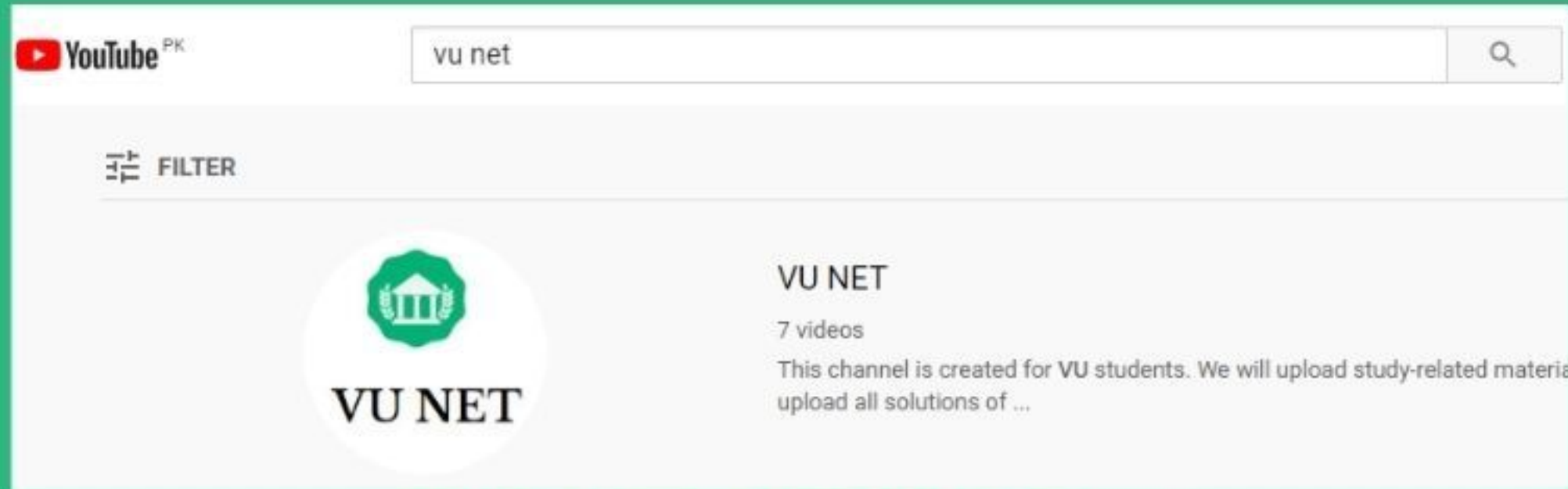
Transition Graph

Generalize Transition Graph

Non-deterministic finite automaton

Made by: Waqar Siddhu

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