CS-402

Final Term

Quiz-3,4

by Attiq Kundi

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CS402

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If the intersection of two regular languages is regular then the complement of the intersection of these two languages is _____.

Regular

The language of all strings partition ∑* into _____ class(es).

Two

The language of all strings not beginning with 'b' partitions ∑* into _____distinct classes.

Two

If Q = {xx, xyxxxy }, and R = {xyxyxyxxyy, xyxyyyxx} then Pref(Q in R) = _____

xyxyyy

A language ending with 'b' partitions $\sum^*$ into _____distinct classes.

Three

If R is regular language and Q is any language (regular/ non-regular), then Pref(_____in _____) is regular.

Q,R

The reverse of the string sbfsbb over { sb, f, b }

Bsbfsb

The basic approach of Myhill Nerode theorem is similar to the concept of:

concatenation of FAs

If there is no final state of two FAs then their _____ also have no _____ state

union, final

If an FA has N states then it must accept the word of length

N

Which of the following is a non-regular language?

Prime

If the FA has N states, then test the words of length less than N. If no word is accepted by this FA, then it will _____ word/words.

accept no

In large FA with thousands of states and millions of directed edges, without an effective procedure it is _____ to find a path from initial to final state.

Impossible

A problem that has decision procedure is called problem.

Decidable problem

Which one of the following languages is a non regular language?

Palindrome

Using Myhill Nerode theorem we partition sigma star into distinct

does not accept any string

While finding RE corresponding to TG, we connect the new start state to the old start state by the transition labeled by

null string

According to theory of automata there are _____ types of languages

Two

While finding RE corresponding to TG, If TG has more than one final state then Introduce the new final state

The states in which there is no way to leave after entry are called

Davey John Lockers
Dead States
Waste Baskets
All of the given options

What is false about the term alphabet?

It can be an empty set.

Which of the following is used to delay the transmission of signal along the wire by one step (clock pulse)?

Delay box

More than one

The CFG S —> aSb|abl^ is used to express the language

Palindrome

A non regular language can be represented by

None of the given options

In large FA with thousands of states and millions of directed edges, without an effective procedure it is _____ to find a path from initial to final state.

Impossible

In polish notation, (o-o-o) is the abbreviation of _____.

Operator - Operand – Operand

If an FA has N states then it must accept the word of length

N

Using Myhill Nerode theorem we partition sigma star into distinct _____.

classes

The production S —> SS lalbl^ can be expressed by Regular expression

(a+b)+

if L1 and L2 are two regular languages. then they expressed by FAs.

can be

The grammatical rules which involve meaning of words are called

Semantics

Set of all palindromes over (a,b) is:

Regular and finite

The language of all strings not beginning with partitions "b" into distinct classes.

Two

The CFG is said to be ambiguous if there exist at least one word of its language that can be generated by production trees.

The states in which there is no way to leave after entry are called

Davey John Lockers

Dead States

Waste Baskets

All of the given options

$(a^* + b^*)^* = (a + b)^*$ this expression is _____

True

What is false about the PALINDROME LANGUAGE?

Every word is reverse of itself.

It is an infinite language.

FA can be build for it.

None of the given optio

FA is also called

DFA

Kleene star closure can be defined

Over any set of string

$[(a + b)(a + b)]^*$, given RE cannot generate the string _____

bbbbbb

In an FA, when there is no path starting from initial state and ending in final state then that FA

To examine whether a certain FA accepts any words, it is required to seek the paths _____ state.

from initial to final

If r1 and r2 are regular expressions then which of the following is not regular expression

r1 – r2

Kleene star closure can be defined

Over any set of string

Which of following string(s) belongs to the language of the regular expression (aa*b)*?

aabaab

According to theory of automata there are _____ types of languages
Select correct option:

Two

If S = {aa, bb}, then S* will not contain

aaabbb

Every non deterministic Finite Automata can be converted into

Regular Expression
Deterministic Finite Automata
Transition Graph
All of the given options

regular

According to Myhill Nerode theorem, if L generates finite no. of classes then L is.....
Select correct option:

Regular

Two languages are said to belong to same class if they end in the same state when they run over an FA, that state

May be final state or not

In pref(Q in R) Q is ..... to (than) R

Not equal

For language L defined over {a, b},then L partitions {a, b}* into ..... classes

Distinct

Which of the following is not a true theorem?

Pseudo theorem

If a regular expression contains * then it _____ define an _____ language.

may, infinite

a^n b^n generates the ..... language

non regular

Prime is a _____ language.

non-regular

If an effectively solvable problem has answer in YES or NO, then the solution is called _____.

decision procedure

To write the expression from the tree, it is required to traverse from _____.

Left side of the tree

If there is no final state of two FAs then their _____ also have no _____ state

union,final

In CFG, symbols that cannot be replaced by anything are called _____.

terminals

Finite Automaton (FA) must have _____ number of states while a language has _____ words.

finite, infinite

The language "PRIME" is an example of _____ language.

non regular

Using Myhill Nerode theorem we partition sigma star into distinct _____.

classes

Even-Even language partitions ∑* into _____ distinct classes.

four

What will be the 9's complement of the number 872?

127

In pref(Q in R), Q is _____ to/than R.

Not equal

There is at least one production in CFG that has one _____ on its left side.

Non terminal

In pumping lemma theorem (x y^n z) the range of n is

n=1, 2, 3, 4…….

A language ending with 'b' partitions ∑* into _____distinct classes.

three

The operators like (* , +) in the parse tree are considered as _____.

terminals

For a machine with N number of states, the total number of strings to be tested, defined over an alphabet of m letters, is _____.

mN +mN+1+ mN+2 +... +m2N-1

In a CFG, the non-terminals are denoted by _____.

Capital letters

If an FA accepts a word then there must exist a path from _____.

Incase of Myhill Nerode theorem, if a language L partitions sigma star into distinct classes and L is also regular then L generates _____ number of classes.

finite

Which of the following is pumped to generate further strings in the definition of Pumping Lemma?

y

The complement of a regular language is also _____.

regular

An FA has same initial and _____ state, then it means that it has no _____ state.
Select correct option:

final, initial

The product of two regular languages is _____.

If a language is regular it must generate _____ number of distinct classes.

finite

If L1 and L2 are regular languages then which statement is NOT true?

L1/L2 is always regular

If the FA has N states, then test the words of length less than N. If no word is accepted by this FA, then it will _____ word/words.

accept no

A problem that has decision procedure is called _____ problem.

decidable

If L1 and L2 are two regular languages, then they _____ expressed by FAs.

can be

A language that can be expressed by RE, is said to be a _____ language.

regular

The values of input (say a & b) do not remain same in one cycle due to

NOT gate

Classes

In pumping lemma theorem (x y"n z) the range of n is

n=1. 2, 3, 4.....

The values of input (say a & b) do not remain same in one cycle due to

NOT gate

The operators like (*" +) in the parse tree are considered as

Terminals

Even-Even language partitions $\sum^*$ into _____ distinct classes.

Four

The strings or words which do not belong to a language are called _____ of that language.

Complement

For a machine with N number of sta., the total number of strings to be tested, defined over an alphabet of m letters, is

mN +mN+1+ mN,-2 ,m2N-1

Which of the following is not a true theorem?

Pseudo theorem

The language "PRIME" is an example of language.

non regular

The product of two regular languages is

Regular

One language can have _____ CFG(s).

More than one