

CS607 Artificial Intelligence
QUIZ No 01 SPRING 2021
MCS FAMILY GROUP TEAM
BY: ARSAL SHANI & AINA MALIK & Family Team

1. Identify the step involved in planning phase.

- Coding
- **Resource allocation**
- Knowledge acquisition from expert
- Identify concrete knowledge elements

page 129

5.12.1 Planning phase

This phase involves the following steps

- Feasibility assessment
- Resource allocation
- Task phasing and scheduling
- Requirements analysis

2. Which of the following command is correct for adding numbers in CLIPS?

- CLIPS> (3 + 4)
- **CLIPS> (+ 3 4)**
- CLIPS> (3 4 +)
- CLIOS> (+ 3 4 +)

page 133

A simple command example for adding numbers

CLIPS> (+ 3 4)

3. During _____ stage knowledge engineer works with the domain expert to acquire, organize and analyse the domain knowledge.

- System Design
- Feasibility Study
- System Planning

- **Knowledge acquisition**

page 129, 130

5.12.2 Knowledge acquisition

This is the most important stage in the development of ES. During this stage the knowledge engineer works with the domain expert to acquire, organize and analyze the domain knowledge for the ES. 'Knowledge acquisition is the

4. Which of the following command is used to see the added facts in CLIPS?

- **(facts)**
- (fact)
- Fact

page 134

- Deftemplate

After adding facts, you can see the fact list using command: (facts).

5. the correct command is load a CLIPS file is:

- (read "filename.clp")
- (loadfile "filename.clp")
- **(load "filename.clp")**
- (readfile "filename.clp")

page 137

can be loaded from a file that has been saved using .clp extension. The command to load the file is:
(load "filename.clp")

6. In CLIPS, _____ command is used to remove facts.

- facts
- **retract**
- erase
- delete

page 134

The retract command is used to remove or retract facts. For example:
(retract 1) removes fact 1

7. The goal of _____ is to analyse and structure the knowledge gained during the knowledge acquisition phase.

- Knowledge structure
- Knowledge design
- **Knowledge analysis**
- ES design

page 131

The goal of knowledge analysis is to analyze and structure the knowledge gained during the knowledge acquisition phase. The key steps to be followed during this

8. In context of ES development, which of the following will be part of planning phase?

- Identify concrete knowledge elements
- **Feasibility assessment**
- Coding
- Knowledge acquisition from expert

page 129

5.12.1 Planning phase

This phase involves the following steps

- Feasibility assessment
- Resource allocation
- Task phasing and scheduling
- Requirements analysis

9. In CLIPS, the _____ command is used for debugging programs.

- FACT
- CLEAR

- DEBUG
- **WATCH** page 135

The WATCH command is used for debugging programs.

10. Knowledge elicitation methods may be classified into:

- **Direct and indirect methods** page 130,131
- Hierarchal and non hierarchal methods
- Data driven and application driven methods
- Direct and hierarchal

term knowledge acquisition. Elicitation methods may be broadly divided into:

- Direct Methods
- Indirect methods

11. CLIPS stands for:

- C# Language Integrated Production System
- COBOL Language Integrated Production System
- C++ Linguist Integrated Production System
- **C Language Integrated Production System** page 133

We will now look at a tool for expert system development. CLIPS stands for C Language Integrated Production System. CLIPS is an expert system tool which

12. Identify the sequence wise main phases of Linear model used in developing expert system

- 1)Planning 2)Knowledge acquisition and analysis 3)Knowledge design 4)System evaluation 5)Code 6)Knowledge verification
- **1)Planning 2)Knowledge acquisition and analysis 3)Knowledge design 4) Code 5)Knowledge verification 6) System evaluation** page 129
- 1)Planning 2)Knowledge acquisition and analysis 3)Knowledge design 4) Code 5) System evaluation 6) Knowledge verification
- 1)Planning 2)Knowledge acquisition and analysis 3)System evaluation 4) Knowledge design 5)Code 6)Knowledge verification

repeatedly in an iterative fashion to develop the ES. The main phases of the linear sequence are

- Planning
- Knowledge acquisition and analysis
- Knowledge design
- Code
- Knowledge verification
- System evaluation

13. In context of CLIPS , “agenda” is the list of _____

- **Activated rules** page 136
- Activated relations
- Activated deftemplates

- Deactivated rules

The agenda is the list of activated rules.

14. _____ encode the knowledge of rules and strategies.

- ES model
- ES requirements
- Knowledge base

• **Inference networks** **page 132**

Inference networks encode the knowledge of rules and strategies.

15. Which of the following is one of the general stages of ESDLC?

- Spiral model
- Design coding
- Linear model

• **Beta system (tested by users)** **page 129**

ES. The general stages of the expert system development lifecycle or ESDLC are

- Feasibility study
- Rapid prototyping
- Alpha system (in-house verification)
- Beta system (tested by users)
- Maintenance and evolution

16. Identify the correct step used to start design of an expert system.

- Scope study
- Rapid prototyping
- **Feasibility study**
- Problem reorganization

page 129

5.12 Design of expert systems

We will now look at software engineering methodology for developing practical ES. The general stages of the expert system development lifecycle or ESDLC are

- Feasibility study
- Rapid prototyping
- Alpha system (in-house verification)
- Beta system (tested by users)
- Maintenance and evolution

17. Knowledge acquisition techniques may not include:

- Interviews
- On-site observation
- Electronic brainstorming
- **Surveys**

page 130

.3 Knowledge acquisition techniques

Knowledge elicitation by interview

Brainstorming session with one or more experts structure to this session by defining the problem ideas and looking for converging lines of thought.

Electronic brainstorming

On-site observation

18. Identify the correct definition of linear model given below.

- A non linear sequence of steps is applied repeatedly in an iterative fashion to develop the expert systems.
- A non sequential set of steps is applied repeatedly in an iterative fashion to develop the expert systems.
- **A linear sequence of steps is applied repeatedly in an iterative fashion to develop the expert systems.** page 129
- A arbitrary set of steps is applied repeatedly in an iterative fashion to develop the software models.

used in developing expert systems. A linear sequence of steps is applied repeatedly in an iterative fashion to develop the ES. The main phases of the

19. If more than one domain experts have to be consulted for knowledge acquisition, than its better to use:

- Surveys
- Electronic brainstorming
- Interviews

- **Blackboard system** page 130

If more than one expert has to be consulted, consider a blackboard system, where more than one knowledge source (kept partitioned), interact through an interface called a Blackboard

20. Identify the correct statement to list facts numbers 1 through 10

- clips> (facts 10)
- **clips> (facts 1 10)** pg#134
- clips> (facts 1)
- clips> (facts 1 to 10)

(facts 1 10) lists fact numbers 1 through 10

21. Reasoning in fuzzy logic is just a matter of generalizing the familiar _____ logic.

- Complex
- Supervised
- Coognitive
- **Boolean** pg#147

How does it work? Reasoning in fuzzy logic is just a matter of generalizing the familiar yes-no (Boolean) logic. If we give "true" the numerical value of 1 and

22. Problem faced during knowledge acquisition may not include

- Expert may provide incomplete knowledge
- **Expert provide exact and accurate knowledge**
- Expert may not provide relevant information
- Expert may provide inconsistent or incorrect knowledge

page 131

Problems that may be faced and have to be overcome during elicitation include

- Expert may not be able to effectively articulate his/her knowledge.
- Expert may not provide relevant information.
- Expert may provide incomplete knowledge
- Expert may provide inconsistent or incorrect knowledge

23. Identify that for which purpose statement given below is used

(deftemplate Person
(slot name (type STRING))
(slot age(type NUMBER))

- Attributes of a fact
- Rule definition
- **CLIPS**
- Rule

pg#134

The Deftemplate construct defines a relation's structure

(deftemplate <relation-name> [<optional comment>] <slot-definition>

e.g.

CLIPS> (deftemplate father "Relation father"
(slot fathersName)
(slot sonsName))

24. In CLIPS, _____ command erases contents of working memory

- (retract)
- (remove)
- (erase)
- **(clear)**

pg#136

Clearing all constructs

(clear) clears the working memory

25. identify the correct statement for the given rule

IF

IELTS score of ali is 6 and

CGPA score of Ali is 3.7 and

GRE score of ali is 66

Then

He is eligible to take admission in any of the university abroad

- (deftemplate Ali (slot attribute)(slot value))
(defrule Alichance (Ali (attribute "IELTS score")(value "6"))
(Ali (attribute "CGPA")value "3.7"))
- **(defrule Alichance (Ali (attribute "IELTS score")(value "6"))
(Ali (attribute "CGPA")value "3.7"))
(Ali (attribute "GRE")value "66"))**
- (deftemplate Ali (slot attribute)(slot value))
(defrule Alichance (Ali (attribute "IELTS score")(value "6"))
(Ali (attribute "CGPA")value "3.7"))
- (deftemplate Ali (slot attribute)(slot value))
(defrule Alichance (Ali (attribute "IELTS score")(value "6"))
(Ali (attribute "CGPA")value "3.7"))

Page 135

The **Defrule** construct is used to **add rules**. Before using a rule the component facts need to be defined. For example, if we have the rule

IF Ali is Ahmed's father
THEN Ahmed is Ali's son

We enter this into CLIPS using the following construct:

;Rule header

(defrule isSon "An example rule"

; Patterns

(father (fathersName "ali") (sonsName "ahmed"))

;THEN

=>

;Actions

(assert (son (sonsName "ahmed") (fathersName "ali")))

)

26. Identify correct statement for the given rule

IF

The aptitude level of ungraduated student is low and

The English level of ungraduated student is dull

Then he is not eligible to go abroad for higher studies

- (deftemplate to UnderGradstudent (slot attribute)(slot values))
(defrule StudentStatus (UnderGradStudent(attribute "aptitudelevel")(value "low"))
(UnderGradStudent(attribute "English understanding level")(value "dull"))

```

=>
(Printout " he is not eligible to go abroad for higher studies"))
• deftemplate to UnderGradstudent (slot attribute)(slot values))
  (defrule StudentStatus (UnderGradStudent(attribute "aptitudelevel")(value"low"))
  (UnderGradStudent(attribute "English understanding level")(value "dull"))
  <=>
  (Printout " he is not eligible to go abroad for higher studies"))
  • (defrule StudentStatus (UnderGradStudent(attribute
"aptitudelevel")(value"low"))
(UnderGradStudent(attribute "English understanding level")(value "dull"))
=>
(Printout " he is not eligible to go abroad for higher studies"))

```

Page 135

The **Defrule** construct is used to **add rules**. Before using a rule the component facts need to be defined. For example, if we have the rule

IF Ali is Ahmed's father
THEN Ahmed is Ali's son

We enter this into CLIPS using the following construct:

```

;Rule header
(defrule isSon "An example rule"

; Patterns
(father (fathersName "ali") (sonsName "ahmed"))
;THEN
=>
;Actions
(assert (son (sonsName "ahmed") (fathersName "ali")))
)

```

27. In CLIPS the defrule construct is used to add

- **rules**
- agenda
- facts
- principles

Page 135

The **Defrule** construct is used to **add rules**. Before using a rule the component

28. In the context of ES development which of the following will be part of planning phase

- knowledge acquisition from expert
- identify concrete knowledge element

• **feasibility assessment**

Page 129

- coding

5.12.1 Planning phase

This phase involves the following steps

- Feasibility assessment
- Resource allocation
- Task phasing and scheduling
- Requirements analysis

29. Which of the following window is not present in CLIPS tool?

- **Rule window** **Google**
- Facts window
- Focus window
- Agenda window

This command displays the **Facts Window**, **Agenda Window**, **Instances Window**, **Globals Window**, and **Focus Window** (creating them if they do not already exist). This command is available **when CLIPS is executing**.

30. Which of the following is correct CLIPS command to display the product of two numbers "5" and "3"?

- **(Printout t "Product of two number is " (* 5 3))** **Google**
- (Printout t "Product of two number is " (x 5 3))
- (Printout t "Product of two number is " (5 x 3))
- (Printout t "Product of two number is " (5 * 3))

Syntax

(*** <numeric-expression> <numeric-expression>+**)

Example

CLIPS> (*** 2 3 4**)

24

CLIPS> (*** 2 3.0 5**)

30.0

31. Clips command for multiplying two numbers 3 and 4 is

- CLIPS> *(3 4)
- CLIPS> (3 4*)
- CLIPS> (3 * 4)
- **CLIPS> (* 3 4)** **Google**

Syntax

```
(* <numeric-expression> <numeric-expression>+)
```

Example

```
CLIPS> (* 2 3 4)
```

```
24
```

```
CLIPS> (* 2 3.0 5)
```

```
30.0
```

ARSL SHANI & AINA MALIK