# AI

Question Bank

## Helping Others Have Special taste

# Questions

**1) Prolog is a programming language based on which paradigm?**
a) Imperative programming
b) Object-oriented programming
c) Functional programming
d) Logic programming

**2) In Prolog, knowledge is represented using:**
a) Variables
b) Loops
c) Facts and rules
d) Functions

**3) Predicates in Prolog are used to define:**
a) Relationships between objects and properties
b) Loops
c) Mathematical operations
d) Conditional statements

**4) Which of the following represents a Prolog rule in the form of "Head :- Body"?**
a) "Goal -> Condition"
b) "If Condition Then Goal"
c) "Conclusion | Conditions"
d) "Head :- Body"

**5) What does the "Head" of a Prolog rule represent?**
a) The conclusion or goal
b) The sub-goals to be met
c) The conditions for backtracking
d) The name of the predicate

**6) In Prolog, what is the purpose of the "Body" in a rule?**

a) To specify the arguments for the predicate
b) To define the name of the predicate
c) To contain the conditions or sub-goals to be met
d) To represent the result of the predicate

**7) Prolog supports which of the following programming paradigms in its core functionality?**

a) Imperative programming
b) Object-oriented programming
c) Functional programming
d) Logic programming

**8) What is the operator used for unification in Prolog?**

a) &&
b) ||
c) =
d) ==

**9) Prolog rules without a body are known as:**

a) Undefined rules
b) Empty rules
c) Facts
d) Clauses

**10) In Prolog, which operator is used to represent logical OR?**

a) &&
b) ,
c) !
d) ;

**11) In Prolog, which symbol is used to represent the end of a query?**

a) !
b) .
c) :
d) $

**12) What is the correct syntax for a Prolog rule representing "X is the mother of Y"?**

a) mother(X, Y) :-
b) X(mother, Y) :-
c) Y is mother(X) :-
d) mother(X) = Y :-

**13)**

| **To write the following sentence by Prolog language, we use: jon likes everyone who plays a football.** | | |
|---|---|---|
| likes (X,Y):- plays(X, football). | **c** | likes (jan,Y):- plays (jan, football). |
| likes (X,Y):- plays(Y, football). | **d** | likes (jan,Y):- plays (Y, football). |

**14)**

| **What is the atomic sentence of the following sentence: Billy studies AI** | | | |
|---|---|---|---|
| **a** | study (Bily, AI) | **c** | study (bily, ai) |
| **b** | study (AI, Bily) | **d** | study (ai, bily) |

**15)**

| Consider the following rule and which of the following FOPL is true :<br>If x is father of z,<br>And z is father of y,<br>Then x is grandfather of y. | | |
|---|---|---|
| $(\forall x \forall y \exists z)\{father(x,z) \wedge father(y,z) \rightarrow grandfather(x,y)\}$. | c | $(\forall x \forall y \exists z)\{father(z,x) \wedge father(z,y)$ $grandfather(x,y)\}$. |
| $(\forall x \forall y \exists z)\{father(z,x) \wedge father(y,z) \rightarrow grandfather(x,y)\}$. | d | $(\forall x \forall y \exists z)\{father(x,z) \wedge father(z,y) \rightarrow grandfather(x,y)\}$ |

**16)**

| **Which of the following FOLP is true for the sentence: All people that are not poor and smart are happy** | | |
|---|---|---|
| $\exists X (\neg poor(X) \wedge smart(X)) \rightarrow happy(X)$. | **c** | $\forall X (poor(X) \wedge smart(X)) \rightarrow happy(X)$. |
| $\exists X (\neg poor(X) \vee smart(X)) \rightarrow happy(X)$. | **d** | $\forall X (\neg poor(X) \wedge smart(X)) \rightarrow happy(X)$. |

**17)**

| **To rewrite the following FOP by Rule, we use :** $\forall X \{[friend(X, hany) \rightarrow friend(X, saied)] \wedge [friend(X, saied) \rightarrow friend(X, ali)]\}$ | | | |
|---|---|---|---|
| **a** | If X is friend hany,<br>Then X is friend saied<br>And X is friend ali | **c** | If X is friend hany,<br>And X is friend saied<br>Then X is friend ali |
| **b** | If X is friend hany,<br>And hany is friend saied<br>Then X is friend ali | **d** | Otherwise. |

**18)**

| **Which of the following FOLP is true for the sentence: Every man respects his parent** | | | |
|---|---|---|---|
| **a** | $\exists x$ man(x) ^ respects (x, parent). | **c** | $\forall x$ man(x) $\rightarrow$ respects (parent). |
| **b** | $\exists x$ man(x) ^ respects (parent). | **d** | $\forall x$ man(x) $\rightarrow$ respects (x, parent). |

**19) …. contains the knowledge necessary for understanding, formulating, and solving problems.**

a. knowledge base
b. knowledge
c. Voice Understanding
d. Expert Systems

**20) …….is information and understanding about a subject which a person has, or which all people have.**

a. knowledge base
b. knowledge
c. Voice Understanding
d. Expert Systems

**21) ……is awareness gained by experiences of facts, data, and situations.**

a. knowledge base
b. knowledge
c. Voice Understanding
d. Expert Systems

**22) The brain of the ES.**

a.Inference Engine

b. knowledge

c. Voice Understanding

d. Expert Systems

**23) ……..An interface between the user and the system and is as menus and graphics.**

a.Inference Engine

b.User Interface

b. knowledge
c. Voice Understanding

**24) ……..Includes All General ES Components**

a.ES Shell

b.Development

c. Consultation

d. Improvement

**25) all of mentioned Major Activities of ES Implementation and Use except……**

a.ES Shell

b.Development

c. Consultation

d. Improvement

**26) ……..is a way used to represent the knowledge that a computer can understand and use this knowledge to solve the complex problems**

a. knowledge base
b. knowledge
c. knowledge representation
d. Expert Systems

**27) ……..is responsible to create the knowledge base (KB) which is a part of the components of AI systems.**

a. knowledge base
b. knowledge
c. knowledge representation
d. Expert Systems

**28) …….are the most basic sentences of first-order logic. These sentences are formed from a predicate symbol followed by a parenthesis with a sequence of terms,**

a.Atomic Sentences

b.Complex Sentences

c.all of above

d.none

**29) ……..are made by combining atomic sentences using connectives.**

a.Atomic Sentences

b.Complex Sentences

c.all of above

d.none

**30) …..can be defined as a relation, which links two atoms together in a statement.**

a.Predicate

b.subject

c.Atomic Sentences

d.Complex Sentences

**31) …….is the main part of the statement.**

a.Predicate

b.subject

c.Atomic Sentences

d.Complex Sentences

**32) ……are clauses which contain the ":-" symbol.**

a.Predicate

b.subject

c.rules

d,facts

**33) ……..are clauses which don't the “:-” symbol.**

a.Predicate

b.subject

c.rules

d,facts

True or False

**34) Writing a program in FOPL means writing facts and rules which together comprise knowledge base Writing a program in Prolog means writing facts and rules which together comprise knowledge base ( )**

**35) In prolog ,predicates and Constant always start with a upper-case letter or digit ( )**

**36) In prolog, we use // to single line comments ( )**

**37) In prolog , Every clause is terminated by a “.” ( )**

**38) In prolog , The predicates coming after the ``:-'' are called the head. ( )**

# Answers

| Question | Answer |
|---|---|
| **1** | D |
| **2** | **C** |
| **3** | A |
| **4** | **D** |
| **5** | A |
| **6** | **C** |
| **7** | D |
| **8** | **C** |
| **9** | C |
| **10** | **D** |
| **11** | B |
| **12** | **A** |
| **13** | D |
| **14** | **C** |
| **15** | D |
| **16** | **D** |
| **17** | D |
| **18** | **D** |
| **19** | A |
| **20** | **B** |
| **21** | B |

| | |
|---|---|
| **22** | **A** |
| **23** | B |
| **24** | A |
| **25** | A |
| **26** | C |
| **27** | C |
| **28** | A |
| **29** | B |
| **30** | A |
| **31** | B |
| **32** | C |
| **33** | D |
| **34** | B |
| **35** | B |
| **36** | B |
| **37** | A |
| **38** | B |