



CS508-Modern
Programming Language
(Solved Subjective-
Update)
CURRENT-S2022



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1. Write the 5 Language Name.

ANSWER:

- ❖ Assembly (1)
- ❖ C (2.5)
- ❖ Pascale (3.5)
- ❖ Basics (5)
- ❖ Lisp (5)
- ❖ C++ (6)

2. Hello World in Pascale.

ANSWER:

```
Program Hello(input,output)
Begin
Writeln('Hello World')
End.
```

3. Hello World in C.

ANSWER:

```
#include<stdio.h>

Int main(){
Printf("Hello World");
}
```

4. Hello World in C++.

ANSWER:

```
#include<iostream>
Using namespace std;
Int main(){
Coout<<"Hello world!";
}
```

5. Hello World in C#.

ANSWER:

```
Using system;
Public class Helloworld{
Public static void Main(){
Console.WriteLine("Hello World");
}}}
```

6. Hello World in JAVA.

ANSWER:

```
Class Helloworld{
Public static void main(string[]args){
```

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```
System.out.println("Hello World");  
}}}
```

7. Hello World In PHP

ANSWER:

```
<?php  
echo "Hello World";  
?>
```

8. SNOBOL stand For.

ANSWER:

StriNg Oriented symBolic Language.

9. What is SNOBOL?

ANSWER:

It is A StriNg Oriented SymBolic Language. It is a special purpose of Language for String manipulation and Handling. It was developed in 1962 at the bell Labs by Ferber, Griswold and Polensky. SNOBOL supported Both Positive and Negative integer. In SNOBOL a variable must begin with Upper and Lower case. If the character is the combination of letter the it used () for initializing the variables.

For Example.

Junaid, juanid123malik, Junaid_Malik

10.Statement Body in SNOBOL.

ANSWER:

- ❖ Assignment statement
- ❖ Pattern Matching Statement
- ❖ Replacement Statement
- ❖ End Statement

11.Features of SNOBOL.

ANSWER:

- ❖ Dynamic Operator
- ❖ Overloaded Operator
- ❖ Overloading Operator
- ❖ Run time compilation
- ❖ Space as Operator
- ❖ Variable Length String
- ❖ String operator Include Concatenation.
- ❖ Go-to Control Structure

12.How can you determine the size of array in SNOBOL?

ANSWER:

The size of array in SNOBOL can be determined at runtime by Using the input
A= array[input]

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13. What is Main Goal of Adda Language?

ANSWER:

- ❖ Program reliability and Maintenance
- ❖ Program as Human activity
- ❖ Efficiency

14. What is the Feature of Adda?

ANSWER:

- ❖ It is Strongly Typed
- ❖ Task can be created and communicate.
- ❖ It supports Object-Oriented-Language
- ❖ The interface of other Languages is included in this Language.
- ❖ Packages and typed can be generic.

15. Write IO header file for Ada.

ANSWER:

With ada.Text_Io;

Use ada.Text_Io;

16. Hello World in ADDA.

ANSWER:

With ada.Text_Io;

Use ada.text_Io;

Procedure hello is

Begin

Put_Line ("Hello World");

End hello;

17. What are elementary adda type?

ANSWER:

- ❖ Scalar Type
- ❖ Discrete Type
- ❖ Fixed point Type
- ❖ Access Type
- ❖ Real Type

18. Write the name of looping in ADDA.

ANSWER:

There are three types of loops in ADDA.

- ❖ Unconditional Loop
- ❖ For Loop
- ❖ Do-While Loop

19. How many character Types are supported in Adda.

ANSWER:

There are two-character types are supported in Adda.

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- ❖ The 8-bit code character
- ❖ Wide-character that support 16-bit Unicode

20.What is LISP?

ANSWER:

LISP stand for LISt Processing. It was invited by McCarthy at MIT. It has Two Types. One is atom (integer,string,symbol) other is List.

21.What is S-Expression and Its Types.

ANSWER:

S-Expression is a convention for representing a data and Program in LISP is Textual Form. It uses both the code data and LISP.

It has two Types.

- ❖ Evaluate an Atom
- ❖ Evaluate a list.

22.What are the three Concept which are introduces in LISP First Time.

ANSWER:

- ❖ Conditional
- ❖ Dynamic Typing
- ❖ Garbage collection
- ❖ Functional Type

23.What is Predicate in LISP?

ANSWER:

A predicate is a special character that return NIL if the Predicate is false.

For Example:

(= (+2 4) (*2 3))

= T

24.Name the Function that are used in LISP.

ANSWER:

- ❖ Append
- ❖ Cons
- ❖ List

25.SNOBOL code for match/Search

ANSWER:

KEYWORD= 'INT'|'CHAR'

This is INT and CHAR pattern of Keyword and Now we can

KEYWORD=KEYWORD|'FLOAT'

Now we create a Matching Pattern

TEXT= 'This is an INTEGER'

TEXT KEYWORD

Now Pattern are Matched

This is an **INT**EGERE

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26.What is PROLOG?

ANSWER:

PROLOG stand for PROgraming in LOGic it was developed in 1975 by Phillipe Roussel. It is a declarative language on the base of predicate class. It is a non-procedural. That is only “what” is to be done “How” to do it. A prolog design Interface from FACTS and RULES.PROLOG load Facts and Rules into the Database

27.What are steps of PROLOG?

ANSWER:

There are three steps of PROLOG.

- ❖ Declaration some Facts about objects and their relationship
- ❖ Declaration Some Rules about objects and their relationships
- ❖ Asking Question About objects and their relationships.

28.What is the Kind of Type Checking?

ANSER:

There are two kinds of Type Checking

- ❖ Static Type Checking
- ❖ Dynamic Type Checking

29.What are Facts?

ANSWER:

- ❖ Facts are used to solve the problem in PROLOG Database.
- ❖ Facts are used to unchanging information about objects and their relationship

30.Five language names (checking problem)

ANSWER:

These are Following

- ❖ C
- ❖ C++
- ❖ C#
- ❖ F#
- ❖ Python
- ❖ JAVA

31.Java feature which presents in C++

ANSWER:

These similarities are Following

- ❖ Both the languages support object-oriented programming.
- ❖ They have the very same type of syntax.
- ❖ The comments syntax is identical between Java and C++.
- ❖ They have multi-threading support.

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- ❖ The primitive data types are the same in both.

32.Java feature which No in C++

ANSWER:

- ❖ Support Web “Applet”
- ❖ Support for Event Driven Application
- ❖ Support for Networking
- ❖ A byte data type
- ❖ Use 16-bit code of Character

33.Operator in Ada and C/C++

ANSWER:

- ❖ Logical Operator AND in Ada is AND While C/C++ is &&
- ❖ Bitwise Exclusive operator OR in Ada XOR while C/C++ is ^
- ❖ Assignment Operator in ADA is: = while C/C++ is =
- ❖ Equality operator in ADA is = While C/C++ is ==
- ❖ Non-Equality operator in ADA is /= while C/C++ is !=

34.Opening and closing of PHP

ANSWER:

These are Following

- ❖ <?php
Echo “JUNAID”;
?>
- ❖ <?
Echo “JUNAID”;
?>
- ❖ <%
Echo “JUNAID”;
%>
- ❖ <script language=”PHP”>
Echo “JUNAID”;
</script>

35.Data Type to Support PHP.

ANSWER:

- ❖ Boolean
- ❖ String
- ❖ Integer
- ❖ Float/Double
- ❖ Objects
- ❖ Array

36.Prolog has a number of other syntactic elements

ANSWER:

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I. SPECIAL OPERATOR:

CUT<or>

NOT<predicate>

II. Predefined Operator:

- ❖ Write(arg1,arg2,arg3.....) %used for Output
- ❖ nl % used For New line
- ❖ reading(var) %used for integer
- ❖ readchar(var) %used for Character
- ❖ readln(var) % used for Read Line

III. Operators:

- ❖ Arithmetic
+,-,*,div/Mod
- ❖ Relational
<,>,<=,>=,><

37.Language Evaluation Criterion

ANSWER:

LANGUAGE LEVEL	PRODUCTIVITY
1-3	5 to 10 Functions Points
4 to 8	10 to 20 Functions Points
9 to 15	16 to 23 functions point
16 to 23	15 to 30 Functions Point
24 to 55	30 to 50 Functions Points
Above 50	40 to 100 Functions Points

38.Prolog Program

ANSWER:

This program has three facts and one rule.

The facts are stated as follows:

rainy(columbo).

rainy(ayubia).

cold(ayubia).

The rule is:

snowy(X) :- rainy(X), cold(X).

OUT PUT:

We look into the RULES in RULES SNOW(X) is Given then we look next

We know that := is used for IF

? – snowy(rainy)

TRUE

Why it is True because condition matched the exact Requirements

39.Predicate, Clause and Goals in PROLOG.

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ANSWER:

❖ **PREDICATE**

A predicate is declaration of relationship or Rules. It has zero or More arguments

For Example:

Man()

Family(integer,Char)

❖ **Clause:**

A clause defined the predicate sentence. It has two Types.

- i. FACTS (it has all parameters)
- ii. RULES (it is a Function of Defination)

For Example FACTS:

Brother(junaid,malik)

JUNAID and MALIK are Brothers

For Example, RULES:

Brother(X,Y)

Man(X)

Man(Y)

Father(Z,X)

Father(Y,Z)

Conclusion:

It has Two symbol

If X is man and Y is man Then both are brothers and The Father are Same

❖ **GOALS**

- ✚ It is the object of Program
- ✚ It is the Only Tentative Section of the Program
- ✚ Syntactically and semantically, it just another CLAUSE
- ✚ It may be Empty, Single or Compound

40.Type Conservation and Type Casting

ANSWER:

It has Two Type of Conservation

- ❖ Implicit Conservation
- ❖ Explicit Conservation

It has Two Type of Casting

- ❖ Implicit Casting
- ❖ Explicit Casting

41.Control Statement of PHP

ANSWER:

- ❖ IF

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- ❖ While
- ❖ Do-While
- ❖ For
- ❖ Switch
- ❖ Foreach
- ❖ Break
- ❖ Continuous

42.LEGAL and ILLEGAL PHP Variable

ANSWER:

- ❖ \$abc = 'JUNAID'; //valid
- ❖ \$Abc = 'JUNAID'; //valid
- ❖ \$9xyz = 'JUNAID'; //invalid
- ❖ \$_9xyz = 'JUNAID'; //valid
- ❖ John='JUNAID'; //invalid

43.Four most common use loop statement in c++ java

ANSWER:

- ❖ If
- ❖ While
- ❖ Do-While
- ❖ For

44.Write the Four Objects in JAVASCRIPT.

ANSWEWR:

- ❖ Build-in-Objects
- ❖ Browser Objects
- ❖ Documents Objects
- ❖ User Defined Objects

45.Write the Object Model In JAVASCRIPT.

ANSWER:

- ❖ Browser Objects Model (BOM)
- ❖ Documents Object Model (DOM)

46.Anonymous Variable

ANSWER:

The _ is a special variable. It is called Anonymous variable. It is used for the place holder for the value which is not required

For Example:

Brother(Junaid,_)

47.Prolog Head and Tail RULE.

ANSWER:

- ❖ The vertical bar '|' is used to separate the head and tail of a list as shown below:

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[<head>|<tail>]

- ❖ The | has dual purpose in Prolog

For Example:

[1,2|[3]]

In this Case 1 and 2 is Head and [3] is tail.

48.Five Possible Binding Time

ANSWER:

- ❖ Language Design Time
- ❖ Language Implement time
- ❖ Compile Time
- ❖ Load Time
- ❖ Run Time

49.Event Handling in JAVA.

ANSWER:

- ❖ Action Event
- ❖ Mouse Event
- ❖ Text Event
- ❖ Window Event
- ❖ Key Event
- ❖ Item Even

50.What is Exception Handling?

ANSWER:

In Exception in which have an alternative method to Handle the Exception.

It has Two Types.

❖ Checked Exception

In Checked the Exception is handle by re-throwing or try or Catch Block.

❖ Unchecked Exception

In Un-checked Exception the class error and Runtime Exception is Called Unchecked Exception.

51.Storage Bindings:

- ❖ Static Storage Binding
- ❖ Stack Dynamic Variables:
- ❖ Explicit Heap Dynamic Variables
- ❖ Implicit Heap Dynamic Variables

52.Multiple Selection Constructs

Design Issues:

- ❖ What is the form and type of the control expression?
- ❖ What segments are selectable (single, compound, sequential)?
- ❖ Is the entire construct encapsulated?

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- ❖ Is execution flow through the structure restricted
- ❖ to include just a single selectable segment?
- ❖ What is done about un-represented expression
- ❖ values?

53.Thread Methods:

Some of the common thread methods are listed below:

- ❖ start()
- ❖ sleep()
- ❖ yield()
- ❖ run()
- ❖ wait()
- ❖ notify()
- ❖ notifyAll()
- ❖ setPriority()

54.What 'is the Level of Control Flow?

ANSWER:

- ❖ Within expressions
- ❖ Among program units
- ❖ Among program statements

55.Differentiate between the Dynamic Type binding and Static type binding

ANSWER:

Static type binding:

It occurs before runtime and remain unchanged execution of the Program

Dynamic Type Binding:

It occurs during execution or change during the execution of the Program

56.How many modes in C#?

ANSWER:

There are two typed of MODE in C#

- ❖ Managed
- ❖ Unmanaged

MANAGED:

- ❖ Managed code is executed under the control common language Runtime.
- ❖ There is No Explicitly, allocation and Deallocation, and there is no explicit calls garbage collector

UNMANAGED:

It proved access to the memory throughout the pointer.

For Example:

- ❖ Debugging.

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- ❖ External Function

57. Disadvantages of UNSAFE code in C#.

ANSWER:

- ❖ Code Complex
- ❖ Header to use
- ❖ Pointer are header to debug

58. Garbage Collector Problem in C# and the fixed keyword

ANSWER:

When pointer is used in C#, the Garbage collector change the physical position of the object. When garbage collector changes the position, the pointer points the wrong place memory. To avoid such this problem fixed keyword, inform the system not to move the object throughout the garbage Collector.

59. Types of Arrays.

ANSWER

There are two types of arrays in C#.

- ❖ Single dimensional arrays
- ❖ Multi-Dimensional arrays

- ✚ Rectangular

It is a single array with have a Multiple dimension. The dimension array is fixed in array Direction

- ✚ Judged

Judged array is multi-dimensional array with have irregular dimension.

60. What are the class Modifier in C#?

ANSWER:

- ❖ Public
- ❖ Internal
- ❖ Protected
- ❖ Internal protected
- ❖ Sealed
- ❖ Abstract

61. What is the method modifier in C#?

ANSWER:

- ❖ Static
- ❖ Extern
- ❖ New
- ❖ Override

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❖ Virtual

62.Java and C# - Some Commonalities

ANSWER:

- ❖ Both the language has power full capabilities
- ❖ Both the Language has no Header File, and the code is Scoped to packages or assembler
- ❖ All variables must be initialized before used.
- ❖ The (.) operator always be used and there is no ->,: operator
- ❖ Both the Language try block have a Finally Block
- ❖ Both of these have garbage collector coupled with the elimination of pointers.

63.Some C# features which are different from Java

ANSWEWR:

- ❖ C# support the primitive Data type while the Java does not
- ❖ C# support the enumeration while the java Does Not
- ❖ C# support operator overloading
- ❖ C# is the concept of Garbage collector
- ❖ C# support the class “Operator”
- ❖ C# has three types of Arrays

64.What is JAVA>

ANSWER:

JAVA was developed in 1990 on the base of C++. It is very similar to C++ and as compared to C++ it is very easy. That's the professor FELDMAN says that the JAVA is C++--. It supports OOP. In JAVA every class has main class. And the Main class Must be Public and Static.

65.What is Meant by JAVA file?

ANSWER:

In Java the Source code can be Written in “.java File”. Here are the Some Restriction.

- ❖ Each Source Code can have one public class.

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- ❖ If there is a public class, it is necessary that the memory class and file name are matched

66.What are JAVA types?

ANSWER:

There are two Categories of Java type

- ❖ Primitive type
- ❖ Reference Type

67. Arite the Bits of JAVA

ANSWER:

Char	16-bit Unicode
Bytes	8-bit signed integer
Short	16-bit signed integer
Int	32-bit signed integer
Long	64-bit signed integer
Float	Floating point Number
Double	Floating point Number
Boolean	It is similar as C++

68.How many Ways to create Own Threads?

ANSWER:

There are two Ways to create own Threads

- ❖ Subclassing the threads class and initializing the new objects for that class
- ❖ Implementation the Runnable interface

69.Implicit Heap Dynamic Variables

ANSWER:

Allocation and De-allocation are cause by assignment statemen

For Example:

All Variable in SNOBOL

ADVANTAGES:

FLEXIBILITY

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DISADVANTAGES:

Loss Error Detection

70.Explicit Heap Dynamic Variables

ANSWER:

Allocation and de-allocation by explicit directive.

For Example:

All Objects in JAVA

ADVANTAGES:

Provide Dynamic management

DISADVANTAGES:

Inefficient and Unreliable

71.Area of Circle Code in JAVA.

ANSWER:

```
Class AreaOfCircle{  
Public static void main(string[]args){  
Scanner s=new scanner(system.in);  
System.out.println("Enter the Area of Radius");  
double r=s.nextDouble();  
double radius=(22*r*r)/7;  
System.out.println("Area of Circle is: "+ area);  
}}
```

72.Why it is necessary to use (:) in control flow statement

ANSWER:

PHP CONTROL FLOW has Following

- ❖ If
- ❖ While

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- ❖ Do-While
- ❖ For
- ❖ Break
- ❖ Continuous

So, Semicolon (;) is used in Enclosing the braces of endif, endwhile, endforeach

73. Who's better among C/C++ and Ada according to overloading concept.

ANSWER:

As compare with overloading concept, then Adda allows limited overloading operator. C++ and Adda provide a user-defined overloading concept.

74. How many Types of String Operation in PHP?

ANSWER:

There are two types of String Operation in PHP.

- ❖ String Concatenation (.)
- ❖ Assignment Operation (.=)

75. What is PUZZLE:

ANSWER:

- ❖ They are Five Houses
- ❖ All are had different pets
- ❖ They are drinks but different drinks
- ❖ They are smoke but different Things

76. Inherited, Overloaded, Overridden.

ANSWER:

Inherited:

If no method with the same name defines the subclass

Overloaded:

If the Subclass is defining the method with the same name but with different parameter

Overridden:

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If the Subclass is defining the methods with same name but has same number of Parameter.

77. Assume that the finally clause does not include any transfer of control. Here are the situations that can arise

ANSWER:

These are Following

- ❖ No exception occurs during the execution of try, and there is No transfer of control is executing in try. In this way Finally Clause Can be execute.
- ❖ No Exception occurs during the Execution of Try, and the transfer of control can execute in try, in this way Finally clause executed and Transfer of Control Takes place.
- ❖ An Exception occurs during the execution of try, and there is No catch clause for exception, The finally clause execute.
- ❖ An Exception occurs during the execution of try and there is does the catch clause for Exception, the catch clause does not execute.

78.C# “IS” Operator.

ANSWER:

- ❖ IS Operator Support the Runtime type information
- ❖ It will return True.
- ❖ The IS Operator is used for Runtime Type Checking

79.C# “AS” Operator.

ANSWER:

- ❖ The as operator does not throw an exception; instead, the result returned is null as
- ❖ The as operator attempts to cast a given operand to the requested type.

80.Enumeration Types

ANSWER:

- ❖ Type Color is
- ❖ Type state is

81. Algol 68 – 1968

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ANSWER:

It is Not a Superset Language it. It designed on the base of orthogonality.

Major Contribution of this Language is:

- ❖ User-Defined data Structure
- ❖ Reference Type
- ❖ Dynamic Array

82.TWO merits and Demerits of Pointer

ANSWER:

MERETS:

- ❖ Pointer allows Dynamic Memory allocation
- ❖ It allows implementation of Sharing Just passing the address of Variables

DEMERITS:

- ❖ Pointers are slower the Normal Variables
- ❖ If the pointer does not proper Initialized It can be Reason Segmentation Fault