# **IBM Interview Questions**



**IBM** (*International Business Machines* Corporation) is an American multinational innovation organization headquartered in Armonk, New York, United States, with activities in more than 170 nations. The organization started in 1911 as the Computing-Tabulating-Recording Company (CTR) and was renamed "Universal Business Machines" in 1924.

Nicknamed Big Blue, IBM is one of 30 organizations incorporated into the Dow Jones Industrial Average and one of the world's biggest bosses, with (starting at 2017) more than 380,000 representatives. Known as "IBMers", IBM representatives have been granted five Nobel Prizes, six Turing Awards, ten National Medals of Technology and five National Medals of Science.

IBM India's Solution and Services span all major industries including Financial Services, healthcare, government automotive, telecommunication, and education amongst others. IBM holds numerous awards for its industry-leading employment practices and policies.

# **IBM Recruitment Process**

IBM conducts 3-4 rounds to select fresher as Software Developer in their organization.

- Aptitude test
- Technical interview
- HR interview

# Academic Criteria:

- $\circ~$  65 percent or above in B.Tech, Class X and XII.
- o No backlogs at the time of interview

## Written Round:

The Written round consists of three major sections namely number series, General Aptitude Test and English Assessment Test. For Number Series and General Aptitude Test, there is a time of 2.15 min. And for the English Assessment Test, the total time duration is 20 minutes. These both tests are objective and there is no timer for each question as in the 1st round.

# Technical Rounds:

Only those students are allowed to appear in this round who have passed the written round. There is no guide to tell which questions will be asked in this round but you can guess the types of questions. Questions can depend on the interview panel. Your basics must be strong to clear this round. You should be prepared with Data structures and Algorithms, DBMS, Operating System, Networking, OOPs concepts and at least a programming language of your choice. You must be prepared for the highlighted points of your resume.

## HR Rounds:

Sometimes they asked HR Questions like:

- 1. Tell me about yourself.
- 2. Why IBM?
- 3. What are your Strength and Weakness?
- 4. Question from Resume
- 5. Questions form Internship/prior projects

# Questions Asked in IBM:

- 1. Insertion Sort
- 2. Selection Sort
- 3. Linked List
- 4. Explain the different types of database users.
- 5. Collection in Java
- 6. File Handling in Java
- 7. Differentiate between overloading and Overriding
- 8. Differentiate between Abstract Class and Interface



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# **IBM Aptitude Questions**

- 1) If 20 men can construct a divider of 112 meters in length in 6 days, what length of a comparable divider can be worked by 25 men in 3 days?
  - a. 69 meters.
  - b. 58 meters.
  - c. 70 meters.
  - d. 76 meters.

2) In a race of 600 meters, A can beat B by 60 meters and in a race of 500 meters; B can beat C by 50 meters. By what

# Show Answer

a. 76 meters.b. 89 meters.

number of meters will A beat C in a race of 400 meters?

c. 71 meters.
d. 84 meters.
Show Answer
3) On the off chance that the accumulated dividends on a specific total of cash for a long time at 10% for each annum be Rs. 993, what might be the basic intrigue?
a. Rs.840
b. Rs.590
c. Rs.695
d. Rs.900
Show Answer
4) What yearly portion will release an obligation of Rs. 4600 due in 4 years at 10% straightforward intrigue?
a. 1000
b. 1330
c. 1600
d. None of these
Show Answer
5) A number whose fifth part expanded by 5 is equivalent to its fourth part lessened by 5, is
a. 140.
b. 180.
c. 200.
d. 270
Show Answer
6) Two numbers are with the end goal that the proportion between them is 3:5, however in the event that each is expanded by 10, the proportion between them ends up 5:7. The numbers are
a. 7, 5
b. 7, 12
c. 13, 29
d. 15, 25
Show Answer
7) A man pushes downstream 30 km and upstream 18 km, taking 5 hours each time. What is the speed of the stream (current)?
a. 1.2 KM/HR
b. 1.7 KM/HR
c. 2.8 KM/HR
d. 4.8 KM/HR

8) A train 125 meter long is running at 50 km/hr. In what time will it pass a man running at 5 km/hr in a similar bearing in which the train is going?
a. 15 sec
b. 10 sec
c. 60 sec
d. 55 sec
Show Answer
9) A is twice as fast as B is thrice as fast as C. The journey covered by C in 42 minutes, what will be covered by A is
a. 21 MIN
b. 64 MIN
c. 17 MIN
d. 40 MIN
Show Answer
10) A can complete a work in 40 days and B in 28 days. In the event that A and B together take every necessary step, at that point roughly in how long will a similar function be finished?
a. 17 days
b. 14 days
c. 16 days
d. 29 days
Show Answer
11) Teena is more youthful than Rani by 6 years. On the off chance that the proportion of their ages is 6:8, discover the time of Teena:
a. 18 years
b. 16 years
c. 17 years
d. 19 years
Show Answer
12) A man purchases a book for Rs.29.50 and offers it for Rs 31.10. Discover his gain percent.
a. 8.1%
b. 5.4%
c. 9.8%
d. 2.4%
Show Answer
13) Think about the arrangement: 464, 232, 240, 120,, 64. What number should fill the clear?
a. 127
b. 128
c. 138
d. 126

14) Look at the series: A4,, C16, D32, E64. What number should fill the blank?
a. B16
b. D4
c. B8
d. B10
Show Answer
15) A quick typist can type some issue in 2 hours and a moderate typist can type the same in 3 hours. In the event that both kinds consolidate, in what amount of time will they wrap up?
a. 2.12 hr
b. 1 .29 hr
c. 1.12 hr
d. 1.20 hr.
Show Answer
16) Two trains running in inverse ways cross a man remaining on the stage in 27 seconds and 17 seconds separately and they cross each other in 23 seconds. The ratio of their speed is:
a. 2: 3
b. 3: 2
c. 3: 6
d. None of these
Show Answer
17) What is the aggregate of all numbers somewhere in the range of 100 and 1000 which are distinct by 14?
a. 353936
b. 35392
c. 35372
d. 35322
Show Answer
18) Gavaskar's average in his initial 50 innings was 50. After the 51st innings, his average was 51. What number of runs did he score in his 51 <sup>st</sup> inning? (assuming that he lost his wicket in his 51st innings)
a. 101
b. 103
c. 98
d. 100
Show Answer
19) I drove 60 km at 30 kmph and after that an extra 60 km at 50 km ph. Register my normal speed over my 120 km.
a. 34 KM/HR
b. 37 ½ KM/HR
c. 42 KM/HR
d. 35 ½ KM/HR
Show Answer
20) A can complete a specific work in a similar time in which B and C together can do it. In the event that A and B together could do it in 10 days and C alone in 50 days, at that point B alone could do it in.

a. 14 DAYSb. 15 DAYSc. 20 DAYS

d. 25 DAYS
Show Answer
21) A boat can go at a speed of 13 km/hr in still water. On the off chance that the speed of the stream is 4 km/hr, discover the time taken by the vessel to go 68 km downstream.
a. 2 HOURS
b. 3 HOURS
c. 4 HOURS
d. 5 HOURS
Show Answer
22) A, B, C are the partner in a business. During a specific year. A got 33% of the benefit. B got one-fourth of the benefit and C got the rest of the Rs. 5000. What amount of measure of cash did A get?
a. Rs. 1000
b. Rs. 2000
c. Rs. 4000
d. Rs. 5000
Show Answer
23) A man possesses 2/3 of the statistical surveying bureau business and offers 3/4 of his offers for Rs. 75000. What is the value of Business?
a. 12000
b. 150000
c. 160000
d. 170000
Show Answer
24) From its total company, A business organization burned through Rs.20, 000 for publicizing, half of the rest of commissions and had Rs.6000 cleared out. What was its aggregate salary?
a. 32000
b. 17000
c. 39000
d. 47000
Show Answer
25) Nirmal and Kapil began a business contributing Rs. 9000 and Rs. 12000 separately. Following a half year, Kapil pulled back portion of his speculation. In the event that following a year, the aggregate benefit was Rs. 4600, what was Kapil's share initially?
a. Rs 2300
b. Rs 2800
c. Rs 3500
d. Rs 2200
Show Answer

26) Anirudh, Harish, and Sahil put a sum of Rs.1, 35,000 in the proportion 5:6:4 Anirudh contributed has the capital for
8 months. Harish contributed for a half year and Sahil contributed for 4 months. On the off chance that they acquire a
benefit of Rs.75, 900, then what is the offer of Sahil in the Profit?

- a. Rs. 13200
- b. Rs. 15700
- c. Rs.14200
- d. Rs. 15800

27) A begins riding his bicycle at 10 am with a speed of 20kmph and B likewise begins at 10 am with a speed of 40kmph from a similar point in a similar way. Returns south at 12 o'clock and B turns north at 11 am. What will be the Distance between A and B at 2 pm?

- a. 250 km
- b. 160 km
- c. 170 km
- d. 145.6 km

#### Show Answer

28) 60 liters of diesel is required to movement 600 km utilizing an 800 cc motor. In the event that the volume of diesel required to cover a separation changes specifically as the limit of the motor, at that point what number of liters of diesel is required to movement 800 km utilizing 1200 cc motor?

- a. 90 liters.
- b. 100 liters.
- c. 120 liters.
- d. None of these

### Show Answer

29) If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance traveled by him is:

- a. 50 km
- b. 56 km
- c. 70 km
- d. 80 km

### Show Answer

# **IBM Reasoning Questions**

- 1) Choose the correct alternative that will continue the same pattern and fill in the blank spaces: 1, 4, 9, 16, 25, (...)
  - 1. 38
  - 2. 36
  - 3. 42
  - 4. 49

### Show Answer

2) Study the following information carefully and answer the given questions:

A word and number plan machine when given an info line of words and numbers adjusts them following a specific rule in each progression. The following is an illustration of input and rearrangement:

Input: going but for crept Te light sir

Step I: crawled going yet for Te light sir

Step II: crawled going light yet for Te sir

Step III: crawled going light yet for sir Te

As per the rules followed in the above steps, find out in each of the following questions the appropriate step for the given input.

If the V step of an input is 'more unadulterated delicate feline not all that sit at', what will be the II step?

- 1. at so more unadulterated feline, not delicate sir
- 2. More unadulterated delicate so sir feline at not
- 3. More unadulterated delicate feline, so sir at not
- 4. all the more so sir delicate unadulterated feline at not
- 5. Can't be resolved

#### Show Answer

- 3) (A) the predetermination of Asia will be formed by the triangular connection between the Asian countries, India, China, and Japan.
- (B) India, China, and Japan which have enrolled a surprising development, in the course of the most recent decade specifically, has gone about as southern engine of development for the entire world.
  - 1. If statement (A) is the cause and statement (B) is its effect.
  - 2. If statement (B) is the cause and statement (A) is its effect.
  - 3. If both the statements (A) and (B) are independent clauses.
  - 4. If both the statements (A) and (B) are effects of independent causes.

### Show Answer

### 4) Statement

Nobody can predict as to how long our country would take to contain the unfortunate and disastrous terrorist's activities. Assumptions:

- I. It is impossible to put an end to terrorist activities.
- II. Efforts to control the terrorist activities are on.
  - 1. If the only assumption I is implicit
  - 2. If only assumption II is implicit
  - 3. If either I or II is implicit
  - 4. If neither I nor II is implicit

### Show Answer

## 5) Statement

"'Music Loving Club' has announced a wide variety of programmers by the visiting musicians." - An advertisement.

### Assumptions:

- I. A large number of people are interested to get entertainment through the programmers.
- II. The artistes may attract a large number of audiences.
  - 1. If the only assumption I is implicit
  - 2. If only assumption II is implicit
  - 3. If either I or II is implicit
  - 4. If neither I nor II is implicit
  - 5. If both I and II are implicit

### Show Answer

- 6) Pay is identified with benefit similarly as Ligno is identified with?
  - 1. Equalization
  - 2. Misfortune
  - 3. Deal
  - 4. Receipts

7) Event (A): Mr. X was murdered in the floods.

Event (B): It was raining intensely.

- 1. If 'A' is the effect and 'B' is its immediate and principal cause.
- 2. If 'B' is the effect and 'A' is it's immediate and principal cause.
- 3. If 'A' is the effect but 'B' is not its immediate and principal cause.
- 4. If 'B' is the effect but 'A' is not it's immediate and principal cause.
- 5. None of these.

#### Show Answer

# 8) Statement

Abundance use of pesticides has brought about bugs creating insusceptibility. Subsequently, agriculturists are experiencing overwhelming misfortune in their harvests because of these resurgent bugs.

## COURSE OF ACTION:

- I. Farmers should quit utilizing pesticides.
- II. Research must be done in creating crossover assortments which are extremely solid and can't be wrecked by bugs.
- III. Agriculturists should quit developing harvests for quite a while.
  - 1. Only II follows
  - 2. Only III follows
  - 3. Only I follow
  - 4. None follows

## Show Answer

9) Blueberries cost more than strawberries.

Blueberries cost more than raspberries.

Raspberries cost more than the two strawberries and blueberries.

If the first two statements are true, then the third statement is

- 1. Genuine
- 2. False
- 3. Indeterminate
- 4. None

### Show Answer

- 10) 7 13 25 49 97 194 385. Find out the wrong number?
  - 1. 13
  - 2. 49
  - 3. 97
  - 4. 194

## Show Answer

# **IBM English Questions**

1) Marta needed to satisfy her to the charge card organization before she could get a home loan.
1. Stipend
2. Risk
3. Compensation
4. Concession
Show Answer
2) VISIONARY
1. Harbinger
2. Pragmatist
3. Extremist
4. Dreamer
Show Answer
3) The well known Dr. Chandra (a)/is just dental practitioner (b)/in our town (c)/No mistake (d)
1. The well-known Dr. Chandra
2. Is the just dental practitioner
3. in our town
4. No blunder
Show Answer
4) I don't concur you on this point.
1. To
2. With
3. In
4. At
Show Answer
5) The Earth moves around the sun.
1. simple past
2. past perfect
3. simple present
4. past future perfect
Show Answer
6) Do you imitate others?
1. Have others been imitated by you?
2. Were others being imitated by you?
3. Are others being imitated by you?
4. Are others imitated by you?
Show Answer

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7) There is n special case \_\_\_\_\_ this run the show.

- 1. in
- 2. to
- 3. For
- 4. on

- 8) The CEO's extensive cost accounts demonstrated she was a \_\_\_\_\_ high-roller with the organization's cash.
  - 1. Harmful
  - 2. Incapable
  - 3. Liberal
  - 4. Harmful

### Show Answer

- 9) Joy
  - 1. Is
  - 2. ous
  - 3. ty
  - 4. eel

Show Answer

# **IBM Technical Interview Questions**

# 1) What are the Semaphores?

Semaphore is a "procedure synchronization device" or variable or abstract data type which is used to control access to a common resource by multiple processes in a concurrent system such as a multitasking operating system.

### It assigns two tasks:

- wait (p)
- signal (v)

It expresses that if there are numerous processes sharing the same variable, at that point different processes must hold up it until the point when the procedure in the basic area is finished, as the procedure in the basic segment is finished, it sends a flag to alternate procedure to enter the basic segment.

# 2) What is Synchronization?

Synchronization is the procedure by which Data Protection Manager (DPM) exchanges information changes from an ensured record server to a DPM server, and afterward applies the progressions to the copy of the secured information. DPM depends on synchronization to keep imitations synchronized with the ensured information on the document servers.

# 3) What is the virtual memory?

Virtual memory is a memory administration capacity of an OS that utilizes equipment and programming to enable a PC to make up for physical memory deficiencies by briefly exchanging information from irregular access memory (RAM) to plate stockpiling.

# 4) What are paging, faulting, and deadlock?

In PC working frameworks, paging is a memory administration by which, computer stores and recovers information from secondary storage for use in main memory. In this scheme, the operating system retrieves data from secondary storage in same-size blocks called paging.

**Faulting:** A page fault (now and then called #PF, PF or hard fault) is a sort of special case raised by PC equipment when a running system gets to a memory page that isn't right now mapped by the memory administration unit (MMU) into the virtual address space of a procedure.

**Deadlock:** A deadlock is a situation in which two computer programs sharing the same resource are effectively preventing each other from accessing the resource, resulting in both programs ceasing to function. The earliest computer operating systems ran only one program at a time procedure.

## 5) Evaluate a+=a+ ++a if a=20 initially.

a += a + (++a) is the same as a = a + a + (++a) First thing that happens is that a++ will set a to 21, after that it will calculate: a = a + a + a; 21 + 21 + 21 = 63 so the result is 63.

# 6) What is Process Scheduling?

The procedure planning is the action of the procedure director that handles the expulsion of the running procedure from the CPU and the determination of another procedure based on a specific methodology.

Process planning is a fundamental piece of Multiprogramming working frameworks. Such working frameworks enable in excess of one procedure to be stacked into the executable memory at once and the stacked procedure shares the CPU utilizing time multiplexing.

# 7) Difference between Quick Sort and Merge Sort.

Comparison	Quick Sort	Merge Sort
Partition of the element in the array.	The splitting of a list of elements is not necessarily divided into half.	The Array is always divided into half(n/2)
Worst Case Complexity	O(n <sup>2</sup> )	O(n log n)
Speed	Faster than another sorting algorithm for the small dataset.	Consistent speed in all type of datasets.
Additional Storage Space Requirement	Less	More
Efficiency	Inefficient for the larger array.	More efficient
Sorting Method	Internal	External

# 8) What is Base Class and Derived Class? How are these two interrelated?

Derivation (C++ only) Inheritance is implemented in C++ through the mechanism of derivation. Derivation allows you to derive a class, called a derived class, from another class, called a base class. In the declaration of a derived class, you list the base classes of the derived class.

# 9) What is the advantage of inheritance in OOPS??

The most frequent use of inheritance is for deriving classes using existing classes, which provides reusability. The existing classes remain unaltered. By reusability, the development time of software is reduced. The derived classes extend the properties of base classes to generate more dominant objects.

## 10) What is Procedural Programming?

Procedural programming is a programming paradigm that uses a linear or top-down approach. It relies on procedures or subroutines to perform computations.

Procedural programming is also known as imperative programming.

# 11) What is the Entry Control Loop?

A passage control circle checks the condition at the season of the section and if condition or articulation turns out to be genuine at that point control moves into the body of the circle. Such kind of circle controls passage to the circle that is the reason it is called the section control circle.

# 12) What is Variable Scope?

A scope is a region of the program and broadly speaking there are three places, where variables can be declared? Inside a function or a block which is called local variables. In the definition of function parameters which is called formal parameters. Outside of all functions which are called global variables.

# 13) What is Dangling Else problem?

Dangling else is a problem happens when we utilize settled if. ... Here in the above case we really need to give the else provision to the external most if condition however it is considered for the deepest if condition .this is called dangling else problem.

# 14) What is the Condition of Deadlock?

Deadlock can exist if and only if 4 conditions hold simultaneously:

- 1. Mutual exclusion: at least one process must be held in a non-sharable mode.
- 2. Hold and wait: there must be a process holding one resource and waiting for another.
- 3. No preemption: resources cannot be preempted.
- 4. Circular wait: there must exist a set of processes

[p1, p2, , pn] such that p1 is waiting for p2, p2 for p3, and so on.

# 15) What does Object Oriented Database Management System (OODBMS)?

An object-oriented database management system (OODBMS) is a database management system that supports the creation and modeling of data as objects. OODBMS also includes support for classes of objects and the inheritance of class properties and incorporates methods, subclasses, and their objects.

Also called an object database management system (ODMS).

# 16) Difference between Structure and Union.

The Basis of Comparison	Structure	Union
Basic	The isolated memory area is distributed to every individual from the 'structure'.	All individuals from the 'association' share a similar memory area.
Declaration	<pre>struct struct_name {   type element1;   type element2;   .   . } variable1, variable2,;</pre>	<pre>union u_name{ type element1; type element2; } variable1, variable2,;</pre>
Keyword	'struct'	'union'
Size	Size of Structure=entirety of the size of the considerable number of information member.	Size of Union=Size of the biggest individuals.
At a Time	A 'structure' stores numerous qualities, of the diverse individuals, of the 'structure'.	An 'association' stores a solitary incentive at any given moment for all individuals.
The Way of Viewing	Provide a single approach to see every memory location	Provide numerous approach to see the same memory area.

Anonymous	No Anonymous feature	Anonymous association can be pronounced.	
Feature			

# 17) What is the purpose of 'SUDO' Command?

The reason for sudo is to execute the charge given to it with root benefits. The motivation behind su is to switch the present client setting. It is fundamentally an antecedent to sudo. On the off chance that no client name is determined for su, at that point it changes to root.

# 18) What is the String?

In programming, a string is a contiguous sequence of symbols or values, such as character strings (a sequence of characters) or a binary digits string(a string of binary values).

# 19) What is an Array? What is the Importance of an Array?

An array is a data structure that contains a group of elements. Regularly, these elements are of the same data type such as integer or string. Arrays are commonly used in the computer program to organized data so that a related set of values can be easily sorted or searched.

#### Importance:

- 1. it is a better and convenient way of storing data of the same data type with the same size.
- 2. It allows users to store a number of elements in it.

# 20) What is the advantage and disadvantage of the stored procedure?

#### Advantage:

- 1. **Maintainability:** Since contents are in one area, updates and following of conditions in light of composition changes ends up less demanding.
- 2. **Testing:** Can be tried autonomous of the application.
- 3. Speed: 1. Stored Procedure is cache on the server.
  - 2. Execution plans for the process are easily reviewable without having to run the application.

### Disadvantage:

- **Restricted Coding Functionality:** Put away technique code isn't as hearty as application code, especially in the territory of circling (also that iterative builds, similar to cursors, are moderate and processor escalated)
- Testing: Any information blunders in dealing with Stored Procedures are not produced until runtime

# IBM HR Interview questions for Fresher

# 1) Tell me about yourself

My name is Arjun Kapoor. I am from Haryana. I have done Bachelor of Technology from the stream of Computer Science and Engineering. I did my academic project on updated technology like machine learning and data mining. I am good at Java and C programming language. As my family background is considered, we are 4 in number. My father is a sweet shop merchant, my mother is a homemaker and I have one sibling. My strength is that I am a self-learner & have a positive mind. My weakness is, I don't take rest until my work is finished.

# 2) Why should I hire you?

As fresher, I don't have any experience. If you hire me, it is a great opportunity for me to learn something new and achieve my goals. This is only possible if you hire me and I assure you that I will give my best to this company.

# 3) What is your Strength and Weakness?

Strength: I am Honest, Sincere, Responsible, and have positive Attitude.

Weakness: I don't take rest until my work finished.

# 4) Why do you want to work for our company?

It is a great honor for me to work in a reputed company likes yours because it is a great multinational company. It has many branches across the world. Employee satisfaction is good in your company. It's a good platform for me to improve my talent and enhance my skill and knowledge.

# 5) What is the difference between Confidence and Over-Confidence?

Confidence means I will win and Overconfidence means I will win at all the time.

## 6) What is the difference between Hard-work and Smart work?

Hard work is very necessary for your life because, without practice, you can?t be able to do smart work.

# 7) How do you feel about working night and weekends?

If the company needs me then I am ready to work at any time.

# 8) Can you work under Pressure?

Yes, it is a Great Honor for me to work in a presumed organization like yours on the grounds that it is an incredible multinational organization. It has numerous branches over the world. Worker fulfillment is great in your organization. It's a decent stage for me to stand my ability and upgrade my expertise and knowledge.

# 9) What is your goals?

My short term goal is to be a part of your company and my long-term goal is to be successful in every parameter of this company.

# 10) Would you lie for the company?

If my lie is for the company welfare, I can but it should not hurt others.

# 11) How much salary do you expect?

I can expect something which I can meet my expenses.

## 12) Where do you see yourself five years now?

I can see myself growing with this company and reaching a position where I become a valuable asset to this organization.

### 13) On the scale of one to ten, rate me as an interviewer.

Sir, you are more educated, more talented, more experienced than me I am not on a level to judge you.

# 14) Who has inspired you in your life and why?

My father is my inspiration because he still shows me the path from nothing to everything. He always guides me to achieve success in every matter of my life. He is also my best friend because he even suggested to me as a friend when I make a mistake.

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