Objects

1. Should a main() method be compulsorily declared in all java programs?

Yes.

2. What is the return type of the main() method?

void.

3. Why is the main() method declared static?

So that the main method becomes accessible to OS even without object creation

4. What is the argument of main() method?

String args[] which is a variable sized array(dynamic array) which is used to collect command line arguments.

5. Does the order of public and static declaration matter in main() method?

No

6. Can a source file contain more than one class declaration?

Yes

7. What is meant by orientation?

Orientation refers to Perspective (or) Point of view (or) the way of we look at the things

8. What is meant by object orientation?

Looking at this world as the collection of objects is called as object orientation.

9. Explain a few key points associated with an object oriented programming wrt the real world?

1. The whole world is a collection of objects.

2. There is no useless object, all objects are useful objects only.

3. Objects are not in isolation rather they are in constant interaction between them.

4. All objects belong to a particular category called class. Class does not exists in reality rather it is blue print. However, objects exist in reality

5. Every object would be having has part(properties) and does part(behavior)

10. Is java an object oriented programming language?

Yes

11. Is java a pure object oriented programming language?

No.

Pure object oriented programming language is a language which supports only objects and not primitive data types. However, Java is not a pure object oriented programming language because along with object creation it also supports primitive variable creation.

12. Is C++ an object oriented programming language?

Yes

13. Is C an object oriented programming language?

No

14. Which was the first object oriented programming language?

Simula

15. Which is the first truly object oriented programming language?

Smalltalk

16. What was the style of programming which was popularly used in the industry before object oriented style came into existence?

Structured Programming Language

17. What is a class?

Class is a blueprint. Using the class, JVM creates an object. A class does not exist in reality. (Contractor example:

      Building plan – class

      JVM – Contractor

      Actual Building - object)

18. What is an object?

Object is a real world entity which has a physical existence. An object is created by the JVM by referring to the class.

19. Do classes have physical existence?

No.

20. Do objects have physical existence?

Yes.

21. What is meant by physical existence?

If memory is allocated for an entity on Heap Segment of the RAM, then it is called as physical existence.

22. If both C++ and Java are OOPL, then why is Java so popularly used?

Because of its Portability feature.

23. How are objects created in Java?

By using the new keyword.

24. Who creates objects in Java?

JVM.

25. Which operator is used for object creation in Java?

"new" operator.

26. Can an object be created without a class?

No.

27. How many objects of a class can be created?

Any number of objects of a class can be created.

28. Comment on the properties of an object?

Properties refer to "has" part of an object and they would be managed using data types.

29. Comment on the behaviors of an object?

Behaviors refer to "does" part of an object and they would be managed using methods.

30. Can you identify objects in this interview room?

Yes. Examples of objects that could be seen in interview room are pen object, book object, AC object, chair object, table object etc.

31. Can you identify the interaction between objects in this interview room?

Yes. Interviewer object in interacting with Interviewee object by asking questions. Student object with the help of pen object and paper object interacting with interviewer object by answering the questions etc.

32. Why is object orientation a good style of programming?

Object orientation is close to the real life and hence using object orientation, we can provide effective and efficient solution for real world

problems.

33. When did the idea of object orientation emerge in the programming world?

In 1980`s the IT industry widely came to the conclusion that structured programming is not good style of programming hence object orientation was adopted as an alternative to structured programming.

34. What is the default value of an object reference declared as an instance variable?

Null

35. Why should we enclose main() method within a class?

It is a rule in java that every method should be enclosed within a class. The JVM has to start the application somewhere. As Java does not have a concept of "things outside of a class", the method has to be inside a class.

36. What happens if we do not declare main() as public?

An error message would be displayed as "Main method not found error".

37. What happens if we do not declare main() as static?

An error message would be displayed as "Main method is not static error"

38. Which command in java is used to invoke the java compiler?

javac

39. Which command in java is used to invoke JVM?

java

40. Why should main() method be present in all java applications?

Because OS can handover the control to main method and from the main method execution will start.

41. What are command line arguments?

The command line argument is an argument passed to a program at the time when we run it. To access the command-line argument inside a java program is easy because they are stored in dynamic array String args[]

42. What is the use of command line arguments?

Input can be given to main method through the command line arguments.

43. How does java collect command line arguments?

In the form of String arguments.

44. How many command line arguments can be passed to a java program?

Any number of Command line arguments can be passed.

45. What happens if a java program expects command line arguments but is not sent to it?

An exception would occur and message would be displayed as "Array

index out of bounds Exception".

46. Why should an object always have a handle?

Using the handle or reference we can access the "has" part and "does" part.

47. What is a handle also called as?

Reference

48. Can we have multiple main() methods within a single class?

Yes provided the signature should be different

Example:

```
class Demo1
{
  public static void main()
  {
            System.out.println("ABC");
  }
public static void main(String[] args)
  {
            System.out.println("XYZ");
  }
}
```

49. Can we have multiple main() methods in a java program?

Yes we can have multiple main() methods with the same signature provided those main methods are in different classes. Eg.

```
class Demo1
{
    public static void main()
    {
            System.out.println("ABC");
    }
}
class Demo2
{
    public static void main(String[] args)
    {
            System.out.println("XYZ");
    }
}
```

50. What are the advantages of object orientation?

It resembles the real world, hence providing effective and efficient solution for real life problem is simple.

51. What is meant by instantiation?

Instantiation is the process of creating an object of a class.

52. Should a class name be a noun or a verb or adjective?

Noun

53.   Should a variable name be a noun or verb or adjective?

Noun

54.   Should a method name be a noun or verb or adjective?

Verb

55.   Should interface name be a noun or verb or adjective?

Adjective

56.   What is the Camel convention for naming a class?

Name must be a noun and the first letter of the class name should be a capital letter

57.   What is the Camel convention for naming a variable?

All letters of the variable names should be in small letters

58.   What is the Camel convention for naming a method?

If the method name consists of only one word, then all the letters should be in small letters, eg: blows().

If the method name consists of two words, then first word should be in small letters and the second word first letter should be in capital letter and so on.

Eg: blowsAir(), blowsColdAir() etc.

59. What are the different ways of creating object in java?

By using new keyword

By using newInstance() method

By using a method called clone()

By using factory methods

60. What is an anonymous object?

An object which does not have any reference referring to it is called as anonymous object.

61. When is using anonymous object a good approach?

If only one behavior of an object has to be activated then using anonymous object is a good approach. However, If multiple behaviors of an object have to be accessed, then creating a reference to an object and through the object reference, accessing behaviours of an object is a good approach.

62. What is the alternative syntax for main() ?

public static void main(String[] args)

public static void main(String args[])

static public void main(String[] args)

public static void main(String…args)

public static void main(String[] student)

63. Which are the popular operating systems? Whom is it licensed

to?

Windows - Microsoft, Unix - AT & T, Macintosh-Apple

64. What is the basic requirement that an operating system expects from any programming language?

main() method should be present.

65. Where does the execution of a program begin from?

Execution actually begins by allocating memory for the static variables on the static segment.

66. Why should the main() be enclosed with in the class?

It is a rule in java that every method should be present within a class.

67. Is there any convention to name a Java file?

Name of the java file should be same as the class name which contains the main method.