

Variables

1. What is an object also called as?

Object is also called as Instance.

2. What is the default name of the object?

No default name is associated with an object.

3. How do we access an object?

Through a reference or handle.

4. Why do we require a reference variable?

To access the has part and does part of an object.

5. What are the contents of an object also called as?

Instance variables.

6. What is a reference variable also called as?

Handle.

7. Who allocates memory for the object?

JVM.

8. Where is memory for the object allocated? Why?

Memory for an object would be allocated on Heap segment so that garbage collector can de-allocate memory of an object.

9. When is memory for an object allocated?

When new keyword is executed object would be allocated memory on the Heap segment.

10. When is memory for an object de-allocated?

Whenever there is no reference referring to an object then an object becomes garbage and garbage collector would de-allocate memory.

11. What are the different types of segments on the RAM?

There are four segments namely Code segment, Stack segment, Static segment and Heap segment.

12. Who allocates memory for the reference variables?

JVM

13. Where is memory for reference variable allocated? Why?

Memory for the reference variables would be created in the stack segment inside the activation record. Whenever an object is created, it's always stored in the heap segment and stack memory contains the reference to it.

14. When is memory for reference variable allocated?

When the control enters into the method.

15. When is memory for a reference variable deallocated?

When the control leaves the method.

16. Who allocates memory for the local variables?

JVM

17. Where is memory for local variable allocated? Why?

In the stack segment, inside the activation record.

18. When is memory for local variable allocated?

When the control enters into the method.

19. When is memory for a local variable deallocated?

When the control leaves the method.

20. What does 4000 represent? Value or address?

It depends on the type of variable which is holding it.

21. What happens when assignment operator is applied on two value type variables?

Value present in one variable gets assigned to another variable.

22. What happens when assignment operator is applied on two reference type variables?

Both references start pointing to the same object.

23. What is the difference between local variables and instance variables?

Local variables: These are visible only in the method or block they are declared.

Instance variables: They can be seen by all methods in the class as they are declared inside a class but outside a method.

Local variables are not initialised by default, whereas **instance variables** are initialised by default.

24. Why do we not create a reference to a local variable?

Because local variables are already inside the stack and no reference is required to access them.

25. What are the default values associated with instance variables?

It depends upon data types. int-0, double-0.0, String-null, char-\u0000, Boolean-false.

26. What are the default values associated with local variables?

Local variables do not associated with any default values. Rather they must manually be initialized.

27. Can instance variables be used without initialization?

Yes.

28. Can local variables be used without initialization?

No.

29. Can a Student object be cast to a double value using type casting?

No. Type casting can take place between primitive types, type casting can also take place between the classes. However between a primitive type and an object, casting cannot take place.

30. What is the role of instanceof operator?

instanceof operator enables a programmer to verify the class to which an object belongs to.

31. What is a field variable?

Instance variable is also called as field variable.

32. What does the code segment contain?

It contains program code.

33. What does the stack segment contain?

It contains local variables, reference variables, activation records

34. What does the static segment contain?

It contains static variables, static blocks and static methods.

35. What does the heap segment contain?

It contains instances or objects

36. Is memory for a class allocated? Explain

Yes. Memory for a class would be allocated on the code segment but not on the heap segment. Only for object, memory would be allocated on the heap segment

37. Which are the variable sized segments on the Ram?

Stack segment and Heap segment are the variable sized segments.

38. Which are the fixed sized segments on the Ram?

Code segment and Static segment are the fixed sized segments.

39. Why the variable sized segments are called so?

Because their size would increase and decrease during program execution.

40. Why the fixed sized segments are called so?

Because their size would not increase or decrease during program execution.

41. Why is the class called a “blueprint”?

Because JVM creates an object by referring to the class.

42. Can an object have zero reference?

Yes. An anonymous object has zero reference.

43. Can an object have one reference?

Yes.

44. Can an object have more than one reference?

Yes.

45. Can a local variable have a reference?

No

46. Can we have a local variable with zero name?

No

47. Can we have a local variable one name?

Yes.

48. Can we have a local variable with many names?

No.

49. When does an active object become “garbage”?

When there is no reference referring to an object, then active object becomes garbage. Such garbage object would be collected by the garbage collector.