1-How should a developer prevent a recursive trigger?

**A. Use a static Boolean variable.**

B. Use a "one trigger per object" pattern.

C. Use a trigger handler.

D. Use a private Boolean variable.

2-What are three ways for a developer to execute tests in an org? Choose 3 arms

A. Metadata API

**B. Developer Console**

C. Bulk API

**D. ToolingAPI**

**E. Setup Menu.**

3-A developer created a helper class with a method that can be called from Visualforce pages, web services, triggers, and of even anonymous code. When the method is called from a trigger, the developer needs to execute logic that should not be executed If the method Is called from anywhere else. How can the developer determine if the code Is executed in a trigger context?

**A. Check if Trigger.isExecuting ==true.**

B. Check if Trigger.newMap !=null.

C. Check if System.executionContext ==’Trigger’.

D. Use the executeOnTrigger annotation on the method definition.

4-What are two considerations for deciding to use a roll-up summary field? Choose 2 answer's partner.

**A. Roll-up summary can be performed on formula fields, but if their formula contains an #Error result, it may affect the summary value.**

B. Roll-up cannot be performed on formula fields.

C. Roll-up summary fields do not cause validation rules on the parent object unless that object is edited separately.

**D. Roll-up cannot be performed on formula fields that use cross-object references or on-the-fly calculations such as NOW().**

5-Wich collection type provides unique key/value pairings of data?

A. List

**B. Map**

C. Array

D. Set.

6-What can a developer use to determine if the core Apex code exceeds any governor limits in a test class during bulk execution?

A. Test.getDmlStatements()

**B. Limits, startTest, stopTest**

C. @TestVisible

D. @TestSetup.

7-What are two features of Heroku Connect? Choose 2 answers [Rif](https://www.heroku.com/connect)  [RIf2](https://blog.heroku.com/heroku_connect_now_with_free_salesforce_api_calls)

**A. Near Real Time Sync between Heroku Postgres and Salesforce**

**B. Bidirectional syncs, allowing data to be written into Salesforce**

C. Real Time Sync between Salesforce and Postgres

D. Displaying data from an external data store via External Objects.

[Rif: heroku-external-objects-salesforce](https://devcenter.heroku.com/articles/heroku-external-objects-salesforce)

[Rif2: heroku-external-objects](https://devcenter.heroku.com/articles/heroku-external-objects)

8-A developer created a Lightning Component named accountList.cmp that displays a list of Accounts. Client side logic that is executed when a user hovers over an Account in the list should be stored in which bundle member?

A. accountListRenderer.js

**B. accountListHelper.js**

C. accountList.renderer

D. accountList.helper .

9-What are two testing considerations when deploying code from a sandbox to production? Choose 2 answers.

A. 75% of tests must execute without failure.

B. Apex code requires 100% coverage.

**C. 100% of tests must execute without failure.**

**D. Apex code requires 75% coverage.**

10-How can a developer set up a debug log on a specific user?

A. It is not possible to setup debug logs for users other than yourself.

B. Create Apex code that logs code anions into a custom object.

C. Ask the use for access to their account credentials, log in as the user and debug the issue.

**D. Set up a trace flag for the user, and define a logging level and time period for the trace.**

11-A lead object has a custom field Prior\_Email\_c. The following trigger is intended to copy the current Email into the Prior\_Email\_c field any time the Email field is changed:

trigger test on Lead (before update)

{ for (Lead Id: trigger.new)

{ if (ld.Email != trigger.oldMap.get(ld.id).email)

{ ld.Prior\_Email\_c = trigger.oldMap.get(ld.id).email; }

update ld;

}

}

Which type of exception will this trigger cause?

A. A compile time exception.

B. A null reference exception.

**C. A DML exception.**

D. A limit exception when doing a bulk update.

12-A developer is asked to write negative tests as part of the unit testing for a method that calculates a person's age based on birth date. What should the negative tests include?

A. Throwing a custom exception in the unit test.

B. Assert that a null value is accepted by the method.

C. Assert that past dates are accepted by the method.

**D. Assert that future dates are rejected by the method.**

13-A developer created a Lightning component to display a short text summary for an object and wants to use it with multiple Apex classes. How should the developer design the Apex classes? Choose 2 answers.

**A. Have each class implement an interface that defines method getTextSummary() that returns the summary.**

B. Have each class define method getTextSummary() that returns the summary.

C. Have each class define method getObject() that returns the sObject that is controlled by the Apex class.

**D. Extend each class from the same base class that has a method getTextSummary() that returns the summary.**

14-A developer has created a Visualforce Page and Apex Controller that uses the With Sharing keyword. The page will be used of by Sales Managers and should only display Accounts owned by Sales Representatives who report to the running Sales Manager. The organization-wide sharing for Accounts is set to Private. Which additional set of stops should the developer take?

A. Create one Profile, two Permission Sets, and one Role.

B. Create one Profile, one Permission Set, and one Role.

**C. Create one Profile, one Permission Set, and two Roles.**

D. Create two Profiles, one Permission Set, and one Role.

15-When would the use of Heroku Postgres be appropriate?

A. To interconnect Microsoft SQL servers to Heroku Applications.

B. To cache commonly accessed data for faster retrieval.

C. To store user generated pictures and Word documents.

**D. To store and retrieve data using the Structured Query Language.**

16-A developer needs to display all of the available fields for an object. In which two ways can the developer retrieve the available fields if the variable myObject represents the name of the object? Choose 2 answers.

A. Use myObject.sObjectType.getDescribe().fieldSet() to return a set of fields.

**B. Use SobjectType.myObject.fields.getMap() to return a map of fields.**

**C. Use Schema.describeSObjects(new String[]{myObject})[0].fields.getMap() to return a map of fields.**

D. Use getClobalDescribe().get(myObject).getDescribe().fields.getMap() to return a map of fields.

17-How can a custom type be identified as unique when added to a Set?

A. The class must have a method with the @InvocableMethod annotation.

**B. The class must implement the Equals and Hashcode methods.**

C. Methods in the class must be static.

D. Methods in the class must be global.

18-A sales manager wants to make sure that whenever an opportunity stage is changed to 'Closed Won’, a new case will be of created for the support team to collect necessary information from the customer. How should a developer accomplish this?

A. Set up a validation rule on the Opportunity.Stage.

B. Create a workflow rule to create the new case.

**C. Create a Process Builder to create the new case.**

D. Create a lookup field to the Case object on the opportunity object.

19-Which two are true regarding a Dyno? Choose 2 answers.

A. Has the ability to sleep as a standard and performance Dyno.

**B. Is a lightweight Linux container used in a collection to run Heroku applications.**

**C. Has Ephemeral filesystems and is rebooted every 24 hours.**

D. Is a lightweight VM used to run code on the Heroku Platform.

20-A developer is creating test coverage for a class and needs to Insert records to validate functionality. Which method annotation should be used to create records for every method in the test class?

A. @PreTest

B. @isTest(SeeAllData=true)

C. @BeforeTest

**D. @TestSetup.**

21-A developer encounters APEX heap limit errors in a trigger. Which two methods should the developer use to avoid this error partner: Choose 2 answers.

**A. Use the transient keyword when declaring variables.**

B. Query and store fields from the related object in a collection when updating related objects.

C. Remove or set collections to null after use.

**D. Use SOQL for loops instead of assigning large queries results to a single collection and looping through the collection.**

22-Which two describe Heroku Redis? Choose 2 answers.

A. Is a repository for storing large images.

B. Is an option for long-term data storage.

**C. Is an in-memory key-value data store, run by Heroku.**

**D. Is provisioned and managed as an add-on.**

23-Given the code block:

Integer a;

for (x = 0: x<10; x+=2)

{ if (x==8) break);

if (x==10) break;

}

system.debug(x);

Which value will the system.debug statement display?

A. 10

B. 4

**C. 8**

D. 2.

24-A developer is asked to create a PDF quote document formatted using the company's branding guidelines, and automatically save it to the Opportunity record. Which two ways should a developer create this functionality? Choose 2 answers.

**A. Install an application from the AppExchange to generate documents.**

**B. Create a Visualforce page with custom styling.**

C. Create a visual flow that implements the company's formatting.

D. Create an email template and use it in Process Builder.

25-A method is passed a list of generic sObjects as a parameter. What should the developer do to determine which object type (Account, Lead, or Contact, for example) to cast each sObject?

A. Use a try-catch construct to cast the sObject into one of the three sObject types.

B. Use the first three characters of the sObject ID to determine the sObject type.

C. Use the getSObjectName method on the sObject class to get the sObject name.

**D. Use the getSObjectType method on each generic sObject to retrieve the sObject token.**

26-A developer writes the following code:

List<Account> acc = [SELECT Id FROM Account LIMIT 10];

Delete acc;

Database.emptyRecycleBin(acc);

System.debug(Limits.getDmlStatements() + ‘, ’ + Limits.getLimitDMLStatements());

What is the result of the debug statement?

**A. 2, 150**

B. 1, 150

C. 2, 200

D. 1, 100.

27-Users report multiple intermittent errors and unexpected results when saving a record. Upon investigation, the developer finds that triggers are executing more than once What is a potential solution to solve this situation?

A. Disable all triggers and use workflows.

B. Use a one trigger per object approach.

C. Use a private class variable to ensure that the trigger only runs once.

**D. Use a static variable to check if the trigger has already run.**

28-What are two ways a developer should deploy code from a developer org to an unrelated production org? Choose 2 answers.

A. Setup a Salesforce to Salesforce connection and deploy a Change Set.

**B. Use an IDE to upload the new code directly into the production org using the metadata API.**

**C. Package the code as an unmanaged package and install it in the production org.**

D. Login to the production org and set the developer org as an inbound connection in the Deployment Settings screen.

E. Save the code to a folder on the developer's computer, create an incoming Change Set in the production org, and upload the files directly.

29-A lead record that has a single related Campaign Member object is converted into a new account, contact, and opportunity. Which object will the Campaign Member reference using a lookup field after conversion?

A. The Account

B. The Opportunity

C. The Product2

**D. The Contact.**

30-What does the context variable Trigger.old represent in an update operation?

**A. The previous version values of the records firing the trigger.**

B. The current values of the records firing the trigger.

C. A map of IDs to the old version of the record.

D. The same values of Trigger.new.

31-Which SOQL query successfully returns the Accounts grouped by name?

A. SELECT Id, Type, Max(CreatedDate) FROM Account GROUP BY Name

B. SELECT Type, Name, Max(CreatedDate) FROM Account GROUP BY Name LIMIT 5

**C. SELECT Name, Max(CreatedDate) FROM Account GROUP BY Name**

D. SELECT Type, Max(CreatedDate) FROM Account GROUP BY Name.

32-In which two org types can a developer create new Apex classes. Choose 2 answers.

**A. Developer Edition**

B. Enterprise Edition

C. Unlimited Edition

**D. Sandbox.**

33-Universal Containers (UC) wants to automate the Sales Operations process for Closed Won Opportunities. When an of Opportunity is marked as Closed Won, UC wants to update the Account to mark it as a Customer. In addition, UC wants all of the Opportunity Line Items from a Closed Won Opportunity to be added automatically as Assets. What is appropriate for automating this process?

Workflow Rules

Process Builder

Workflow Rules and Process Builder

**Process Builder with an Autolaunched Flow.**

34-A Visualforce page is written with the following controller and extensions:

<apex:page standardController="Account" extensions="myExtension>

<apex:inputField value=”(!account.name)”/>

<p/> <apex:commandButton value=”Save” action=”(!save)”/>

</apex:page>

The extension class myExtension has a public save() method. Which save method or methods will be used by the Visualforce page?

**A. The save method from the controller extension**

B. Both - the standardController first, then myExtension

C. The save method from the standardController

D. Both - myExtension first, then the standardController.

35-When viewing a Quote, the sales representative wants to easily see how many discounted items are included in the Quote Line Items. What should a developer do to meet this requirement?

**A. Create a roll-up summary field on the Quote object that performs a SUM on the Quote Line Item Quantity field, filtered for only discounted Quote Line Items.**

B. Create a Workflow Rule on the Quote Line Item object that updates a field on the parent Quote when the item is discounted.

C. Create a trigger on the Quote object that queries the Quantity field on discounted Quote Une Items.

D. Create a formula field on the Quote object that performs a SUM on the Quote Line Item Quantity field, filtered for only discounted Quote Une Items.

36-Which two are true regarding Apache Kafka on Heroku? Choose 2 answers

**A. Is a distributed commit log for communication between services**

**B. Is a messaging backbone for building distributed applications.**

C. Is an add-on that creates a long-term data store.

D. Is designed to move small volumes of ephemeral data.

37-A developer executes the following query in Apex to retrieve a list of contacts for each account: List<Accourt> accounts = [Select ID, Name, (Select ID, Name from Contacts) from Account]; Which two exceptions may occur when it executes? Choose 2 answers.

A. CPU limit exception due to the complexity of the query.

**B. SOQL query row limit exception due to the number of contacts.**

C. SOQL query limit exception due to the number of queues.

**D. SOQL query row limit exception due to the number of accounts.**

38-What Is the output of the following code?

Integer index = 1;

Integer counter = 2;

do

{ System.debug(index);

index++;

counter++;

} while (index == 20 && counter == 21);

**A. The debug statement will output 1.**

B. The debug statement will repeat outputs from 1 to 21.

C. The debug statement will repeat outputs from 1 to 20.

D. The debug statement will output 20.

39-A developer has a unit test that Is failing. To identify the issue, the developer copies the code inside the test method and executes it via the Execute Anonymous Apex tool. The code then executes without failing. Why did the unit test fail, but not the Execute Anonymous?

A. The test method has a syntax error in the code.

B. The test method calls an @future method.

**C. The test method relies on existing data in the database.**

D. The test method uses a try/catch block.

40-What is printed from the following code?

Integer a = 0;

Integer b;

a = a++;

a++;

Integer c = a\*5;

String s = String.valueOf(c)+a;

System.debug(s + ';' + a + ';' + b);

**A. 51;1;null**

B. 6;1;0

C. 6;1;null

D. 51;1;0.

41-What is the return data type when ApexPages.currentPage().getParameters() is used to retrieve URL parameters from a Visualforte controller?

A. Enum

**B. Map<String, String>**

C. List<String>

D. String[].

42-Which two queries can a developer use un a Visualforce controller to protect against SOQL injestion vulnerabilities? Chooose 2 answers

**A. String qryName = ‘%’ + name + ‘%’;**

**String qryString = ‘SELECT Id FROM Contact WHERE Name LIKE :qryNAME’;**

**List<Contact> query Result = Database.query(qryString);**

|---------------------------------------|

B. String qryString = ‘SELECT Id FROM Contact WHERE Name LIKE \’%’ + name ;

List<Contact> queryResult = Database.query(qryString);

|---------------------------------------|

C. String qryName = ‘%’ + String.enforceSecurityChecks(name) + ‘%’;

String qryString = ‘SELECT Id FROM Contact WHERE Name LIKE :qryNAME’;

List<Contact> queryResult = Database.query(qryString);

|---------------------------------------|

**D. String qryName = ‘%’ + String.escapeSingleQuotes(name) + ‘%’;**

String qryString = ‘SELECT Id FROM Contact WHERE Name LIKE\’%’ + qryName + ‘%\’’; List<Contact> queryResult = Database.query(qryString);

43-What are two benefits of using the Lightning Component Framework? Choose 2 answers

**A. Lightning components render on the client, providing performance benefits.**

B. The Lightning Component Framework includes libraries for integrating with popular web services.

C. Lightning components render on the server, ensuring greater security and access control.

**D. Lightning components are built using web standards, ensuring cross-browser compatibility.**

44-A developer needs to write a method that searches for a phone number that could be on multiple object types. Which method should the developer use to accomplish this task?

A. SOSL Search that includes ALL ROWS

**B. SOSL Search**

C. SOQL Query on each object

D. SOQL Query that includes ALL ROWS.

45-Which tool can deploy destructive changes to Apex classes in production?

A. Change Sets

B. Developer Console

C. Salesforce Setup

**D. Workbench.**

46-What are two correct examples of the Model in the Salesforce MVC architecture? Choose 2 answers.

**A. Custom field on the custom Wizard \_\_c object.**

**B. Standard Account lookup on the Contact object.**

C. Standard Lightning component.

D. Workflow rule on the Contact object.

47-What is a key difference between a Master-Detail Relationship and a Lookup Relationship?

A. When a record of a master object in a Lookup Relationship is deleted, the detail records are also deleted.

B. When a record of a master object in a Master-Detail Relationship is deleted, the detail records are kept and not deleted.

C. A Lookup Relationship is a required field on an object.

**D. A Master-Detail Relationship detail record inherits the sharing and security of its master record.**

48-Universal Containers (UC) has an integration with its Accounting system that creates tens of thousands of Orders inside of Salesforce in a nightly batch. UC wants to add automaton that can attempt to match Leads and Contacts to these Orders using the Email Address field on the insert. UC is concerned about the performance of the automation with a large data volume. Which tool should UC use to automate this process?

A. Workflow Rules

B. Process Builder with an Autolaunched Flow

**C. Apex**

D. Process Builder.

49-A user selects a value from a multi-select picklist. How is this selected value represented in Apex? A. As a List<String> with one element.

**B. As a string.**

C. As a string ending with a comma.

D. As a Set<string> with one element.

50-When are code coverage calculations updated?

A. When a deployment is validated.

B. When changes are made to an organization's configuration.

**C. When unit tests are run on an organization.**

D. When Apex code is saved.

51-How are debug levels adjusted In the Developer Console?

A. Under the Logs tab, click Change in the DebugLevels panel.

**B. Under the Debug menu > Change Log Levels..., click Add/Change in the DebugLevel Action column.**

C. Under the Edit menu, dick Change DebugLevels.

D. Under the Settings menu > Trace Settings..., click Change DebugLevel.

52-What are two considerations for custom Apex Exception classes? Choose 2 answers.

**A. Custom Exception classes must extend the base Exception class.**

B. Constructor for custom Exceptions can only accept string values as arguments.

**C. Custom Exception class names must end with the word 'Exception'.**

D. Custom Exceptions cannot be extended by other Exception classes.

53-A developer created a Visualforce page with a custom controller to show a list of accounts. The page uses the <apex:SelecList> component, with a variable called "selection", to show the valid values for Account.Type. The page uses an <apex:pageBlockTable> component to display the list of accounts, where the iteration variable is "acct". The developer wants to ensure that when a user selects a type on the <apex : selectList> component, only accounts with that type are shown on the page. What should the developer do to accomplish this?

A. Add the Rendered={!Acct.type==selection} attribute to the pageBlockTable component.

B. Create multiple lists in the controller that represent the relevant accounts for each account type when the page loads, then reference the correct one dynamically on the pageBlockTable.

**C. Use the onChange event to update the list of accounts in the controller when the value changes, and then re-render the pageBlockTable.**

D. Create a component for each option and use a variable with hide parameter on the element.

54-Which three declarative fields are correctly mapped to variable types in Apex. Choose 3 answers.

**A. Checkbox maps to Boolean**

**B. Date/Time maps to Datetime**

C. Number maps to Integer

D. TextArea maps to List of type String

**E. Number maps to Decimal.**

55-A developer is tasked with creating a schema to track Movies, Actors, and Contracts. A single Movie can have many Contracts and a single Actor can have many Contracts. Each Contract is owned and actively managed by a single user. Which schema should be created to enable users to easily manage the Contracts they own, without requiring access to the Movie or the Actor records?

A. A Lookup Relationship to the Movie object and a Master-Detail Relationship to the Actor object.

B. A Master-Detail Relationship to the Movie object and a Lookup Relationship to the Actor object.

C. A Master-Detail Relationship to the Movie object and Master-Detail Relationship to the Actor object.

**D. A Lookup Relationship to the Movie object and a Lookup Relationship to the Actor object.**

56-What are three characteristics of static methods? Choose 3 answers.

A. A static variable Is available outside of the scope of an Apex transaction.

**B. Allowed only in outer classes.**

C. Allowed only in inner classes.

**D. Excluded from the view state for a Visualforce page.**

**E. Initialized only when class is loaded.**

57-What are two considerations for converting a Lookup to a Master-Detail relationship? Choose 2 answers.

A. The organization-wide default changes to Public Read/Write.

B. All the null values in the Lookup field will be replaced by default values.

**C. If there are existing records with a null value in the Lookup field, an error will occur.**

**D. The organization-wide default changes to Controlled by Parent.**

58-A developer wants to override a button using Visualforce on an object. What is the requirement?

A. The object record must be instantiated in a controller or extension.

**B. The standardController attribute must be set to the object.**

C. The action attribute must be set to a controller method.

D. The controller or extension must have a PageReference method.

59-What should a developer use to post a message on Chatter when a picklist field called Status\_\_c on a custom object Applicatton\_\_c is set to “Approved”?

A. Use a Workflow Rule and use the “Post to Chatter” action when the record meets the criteria.

B. Use ConnectApi from Scheduled Apex.

C. Use the streaming API to post to Chatter.

**D. Use Process Builder to post to Chatter based on meeting the required criteria.**

60-A developer needs to avoid potential system problems that can arise in a multi-tenant architecture. Which requirement helps prevent poorty written applications from being deployed to a production environment?

A. All validation rules must be active before they can be deployed.

**B. Unit tests must cover at least 75% of the application's Apex code.**

C. All Apex code must be annotated with the with sharing keyword.

D. SOQL queries must reference sObActs with their appropriate namespace.

61-A Visualforce page uses the Contact standard controller. How can a developer display the Name from the parent Account record on the page?

**A. Use the (!contact.Account.Name) merge field syntax.**

B. Use SOQL syntax to find the related Accounts Name field.

C. Use additional Apex logic within the controller to query for the Name field.

D. Use an additional standard controller for Accounts.

62-Which type of controller should a developer use to include a list of related records for a Custom Object record on a Visualforce page without needing additional test coverage?

**A. Standard Controller**

B. List Controller

C. Controller Extension

D. Custom Controller.

63-Universal Containers requires Service Representatives to update all Cases at least one every three days. To make sure of this policy is obeyed, a developer has been asked to implement a field that displays the number of days since the last Case update. What should the developer use to configure the solution?

A. Workflow rule

**B. Formula field**

C. Process Builder

D. Scheduled Apex Class.

64-What are two uses for External IDs? Choose 2 answers.

**A. To create relationships between records imported from an external system.**

B. To identify the sObject type in Salesforce.

**C. To prevent an Import from creating duplicate records using Upsert.**

D. To create a record in a development environment with the same Salesforce ID as in another environment.

65-Which three options can be accomplished with formula fields?        
**A. Generate a link using the HIPERLINK function to a specific record in a legacy system**  
**B. Determine if a datetime field has passed using the NOW function**  
**C. Determine which of three different images to display using IF functio**n  
D. Return and display a field value from another object using the VLOOKUP function  
E. Display the previous value for a field using the PRIORVALUE function

66-Which two Apex data types can be used to reference a Salesforce record ID Dynamically? Choose two answers  
**A. ENUM**  
B. External ID  
C. sObject  
**D. String**

67-Which approach should a developer take to automatically add a” Maintenance Plan” to each opportunity that includes an “Annual Subscription” when an opportunity is closed?  
A. Build an OpportunityLineItem trigger that adds a PriceBookEntry Record  
**B. Build an Opportunity trigger that to add OpportunityLineItem Record**  
C. Build an Opportunity trigger that adds PriceBookEntry Record  
D. Build an OpportunityLineItem trigger to add OpportunityLineItem Record

68-A developer working on a time management application wants to make total hours for each timecard available to application user.  A timecard entry has a Master- Detail relationship to a timecard. Which approach should the developer use to accomplish this declaratively?  
A. A roll-up Summary field on the Timecard Object that calculates the total hours from timecard entries for that timecard  
**B. A process builder process that updates a field on the timecard when a timecard entry is created**  
C. An apex trigger that sues an aggregate query to calculate the hours for a given timecard and stores it in a custom field.  
D. A visualforce page that calculates the total number of hours for a timecard and displays it on the page.  
  
69-A developer is asked to set a Picklist field to ‘Monitor’ on any new Leads owned by a subset of Users. How should the developer implement this request?  
**A. Create a lead Workflow Rule Field Update**  
B. Create an after insert Lead trigger  
C. Create a Lead formula field  
D. Create a before insert lead Trigger

70-While writing a test class that covers an OpportunityLineItem trigger, a Developer is unable to create a standard Pricebook since one already exist in the org. how should the developer overcome this problem?  
A. Use @IsTest(SeeAllData=true) and delete the existing standard Pricebook.  
B. Use @TestVisible to allow the test method to see the standard Pricebook.  
**C. Use Test.getStandardPricebbokId()to get the standard Pricebook ID.**  
D. Use Test.loaddata() and a Static Resource to load a standard Pricebook.

71-What is a requirement for a class to be used as a custom visualforce controller?  
A. Any top-level Apex class that has a constructor that returns a PageReference  
B. Any top-level Apex class that implements the controller interface  
**C. Any top-level Apex class that has a default, no-argument constructor**  
D. Any top-level Apex class that extends a PageReference

72-Which approach should a developer use to add pagination to a visualforce page?  
A. The extension attribute for a page  
B. A standardController  
C. The action attribute for a page  
**D. A StandardSetController**

73-Using the schema builder, a developer tries to change the API name of a field that is referenced in an Apex Test Class. What is the end results?  
A.The API name of the field is changed, and a warning is issued to update the class  
B.The API name of the field and the reference in the test class is updated  
C.The API name of the field and the reference in the test class is changed  
**D.The API name is not changed and there are no other impacts**

76-A visualforce interface is created for case Management that includes both standard and custom functionality defined in an Apex class called myControllerExtension. [Ref](https://developer.salesforce.com/docs/atlas.en-us.pages.meta/pages/pages_controller_extension.htm)  
The visualforce page should include which <apex: page> attribute(s) to correctly implement controller functionality?  
**A.StandardController = ‘case’ and extensions = ‘mycontrollerExtension”.**  
B.Controller = ‘case’ and extensions= ‘mycontrollerExtention”.  
C.Extensions = “myControllerExtension”.  
D.Controller = “myControllerExtension”.

77-Why would a developer consider using a custom controller over a controller extension? [Ref](https://developer.salesforce.com/docs/atlas.en-us.pages.meta/pages/pages_controller_def.htm)  
A.To increase the SOQL query governor limits.  
**B.To implement all of the logic for a page and bypass default salesforce functionality.**  
C.The enforce user sharing settings and permissions.  
D.To leveragebuilt –In functionality of a standard controller.

78- Which two platform features allow for the use of unsupported languages? Choose 2 answers  
**A.Heroku Acm.  
B.Docker.**  
C.App.json.  
D.Buildpacks.

79-What are the eight officially supported languages on Heroku platform? [Ref](https://developer.salesforce.com/platform/heroku)

A.Node,Ruby,java,PHP,Python,.Net,C++.  
B.C#,C++,Node,Ruby,Java,PHP,Go,.Net.  
C.Lisp,PHP,Node,Ruby,Scala,Haskell,Go,Erlang.  
**D.Node,Ruby java,PHP,Python,Go,Scala,Clojure**.

80-What is a benefit of using an after-insert trigger over using a before insert trigger?  
A.An after insert trigger allows a developer to make a callout to external service .  
B.An after insert trigger allows a developer to modify fields in the new record without a Quote.  
**C.An after insert trigger allows a developer to insert other objects that reference the new record.**  
D.An after insert trigger allows a developer to bypass validation rules when updating fields.  
  
81-Which two number expressions evaluate correctly? Choose 2 answers  
**A.Decimal d = 3.14159.**  
B.Integer I = 3.14159.  
C.Long l =3.14159.  
**D.Double d = 3.14159.**

82- What are the two-valid option for iterating through each account in the collection List<Account> name AccountList? Choose 2 answers  
A.For (List L : AccountList {..}  
B.For (AccountList){..}  
**C.For(Account theAccount : AccountList) {..}  
D.For{integer i=0;i< Accountlist.size(); i++{..}**

83- While writing a test class that covers an OpportunityLineItem trigger, a Developer is unable to create a standardPiceBook since one already exists in the org? How should the Developer overcome this problem? [Ref](https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex_methods_system_test.htm#apex_System_Test_getStandardPricebookId)  
A.Use @isTest(SeeAllData = true) and delete the existing standard Price Book.  
B.Use Test.loadData() and a static Resource to load standard Price Book.  
C.Use @Test visible to allow the test method to see the standard price book.  
**D.Use test.getStandardPricebookId() to get the standard Price book ID.**

84-The operation manager at a construction company uses a custom object called Machinery to manage the usage and maintenance of its cranes and other machinery. The manager wants to be able to assign machinery to different construction jobs, and track the dates and costs associated with each job. More than one piece of machinery can be assigned to one construction job.  
What should a developer do to meet these requirements?  
A.Create a lookup field on the machinery object to the construction job object.  
B.Create a lookup field on the construction job object to the Machinery object.  
C.Create a master detail lookup on the Machinery object to the construction job object.  
**D.Create a Junction Object with master detail relationship to both the machinery object and the construction job object.**

85- What are the two benefits of lightning components framework? Choose 2 answers  
A.It simplifies complexity when building pages, but not applications.  
**B.It promotes faster development using out-of-the=box components that a suitable for desktop and mobile devices.  
C.It provides an event-drive architecture for better decoupling between components.**  
D.It allows faster – PDf generation with lightning component.

86- Which statement results in an Apex Compiler error?  
**A. Date d1 = Date.Today(), d2 = Date.ValueOf(‘2018-01-01’);**  
B. List <string s> = List <string>{‘a’,’b’,’c’};  
C. Integer a=5, b=6, c, d=7;  
D. Map<Id,Lead> Imap = new Map<Id,Lead> ([Select ID from Lead Limit 8]);

87- A platform Developer needs to write an Apex method that will only perform an action if a record is assigned to a specific Record Type.  
Which Two options allow the developer to dynamically determine the ID of the required Record Type by its name? Choose 2 answers.  
A.Hardcode the ID as constant in an Apex class.  
**B.Use the getRecordTypeInfosByName () method in the DescribeSObjectResult Class.**  
C.Make an outbound web services call to the SOAP API.  
**D.Execute a SOQL query on the RecordType Object.**

88- Which set roll-up types are available when creating a roll-up summary field? [Ref](https://help.salesforce.com/articleView?id=fields_about_roll_up_summary_fields.htm&type=5)  
 A. AVERAGE, SUM, MIN, MAX.  
 **B. COUNT, SUM, MIN, MAX.**  
 C. SUM, MIN, MAX.  
 D. AVERAGE, COUNT, SUM, MIN, MAX.

89- When should an Apex Trigger be required instead of Process Builder Process?  
**A.When an action needs to be taken on a delete or undelete, or before a DML operation is executed.**  
B.When multiple records related needs to be created.

C.When a record needs to be created.  
D.When a post to Chatter needs to be created.  
  
90- How should a developer avoid hitting the governor limits in test methods?  
A.Use Test.loadData() to load data from a static resource.  
B.Use @Testvisible on methods that create records.  
**C.Use Test.startTest() to reset governor limits.**  
D.Use @IsTest(SeeAllData = true) to use existing data.

91- An org has a single account named ‘NoContacts’ that has no related contacts. Given the query:  
List<Account> accounts = [Select ID, (Select ID, Name from contacts) from Account where Name = ‘Nocontacts’];  
What is the result of running this Apex?  
A.A QueryException is thrown.  
B.Accounts[0].contacts is invalid Apex.  
C.Account [0] is Null.  
**D.Accounts [0].contacts is an empty list.**

92- What is the correct invocation to push code to the app sushi-prod from the command line?  
A.Git push master.  
B.Heroku push – app sushi-prod.  
**C.Git push Heroku master –app sushi-prod.**  [**rif (dove dice deploy)?**](https://devcenter.heroku.com/articles/git)D.Heroku git push master.

93- Which three tools can deploy metadata to production? Choose 3 answers.  
**A.Force.com IDE.  
B.Change Set from Sandbox.**  
C.Change Set from Developer Org.  
D.Data Loader.  
**E.Metadata API.**

94- How should a developer make sure that a child record on a custom object, with a look up to the Account object, has the same sharing access as its associated account?  
A. Create a Sharing Rule comparing the custom object owner to the account owner.  
**B. Ensure that the relationship between the objects is Master-Detail.**  
C. Create a Validation rule on the custom object comparing the record owners on both records.  
D. Include the sharing related list on the custom object page layout.

95- What is a capability of the <ltng: require> tag that is used for loading external JavaScript libraries in Lightning Components? [Ref](https://developer.salesforce.com/docs/component-library/bundle/ltng:require/documentation) [Ref1](https://developer.salesforce.com/docs/atlas.en-us.lightning.meta/lightning/js_libs_platform.htm) Choose 3 answers  
**A. One-time Loading for duplicate scripts.**B. Loading externally hosted scripts.  
C. Loading files from Documents.  
**D. Loading scripts in parallel.  
E. Specify loading order.**

96- A developer wrote a unit test to confirm that a custom exception works properly in a custom controller, but the test failed due to an exception being thrown.  
What step should the developer take to resolve the issue and properly test the exception?  
A. Use the finally block within the unit test to populate the exception.  
**B. Use try/catch within the unit test to catch the exception.**  
C. Use database methods with all or none set to FALSE.  
D. Use Test.isRunningTest() within the customer controller.

97- Which approach should be used to provide test data for a test class? [Ref](https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex_testing_utility_classes.htm)  
A. Access data in @TestVisible class variables.  
B. Execute anonymous code blocks that create data.  
C. Query for existing records in the database.  
**D. Use a test data factory class to create test data.**

98- In a single record, a user selects multiple values from a multi-select picklist.  
How are the selected values represented in Apex?  
A. As a List<String> with each value as an element in the list.  
**B. AS a String with each value separated by a semicolon.**  
C. As a String with each value separated by a comma.  
D. As a set<String> with each value as an element in the set.

99- Where can a developer identify the time taken by each process in request using Developer Console log inspector.  
**A. Timeline tab under Execution Overview panel.**  
B. Execution Tree tab under Stack Tree panel.  
C. Performance Tree tab under Stack Tree panel.  
D. Save Order tab under Execution Overview panel.

100- A developer is asked to create a PDF quote document formatted using the company’s branding guidelines, automatically save it to the Opportunity record.  
Which two ways should a developer create this functionality? Choose 2 answers  
A.Create an e-mail template and use it in Process Builder.  
B.Create a visual flow that implements the company’s formatting.  
**C.Install an application from the AppExchange to generate documents.**  
**D.Create a Visualforce page with custom styling.**

101- Which two strategies should a developer use to avoid hitting governor limits when developing in a multi-tenant environment? Choose 2 answers  
A.Use variables within Apex classes to store large amounts of data.  
B.Use collections to store all fields from a related object and not just minimally required fields.  
**C.Use SOQL for loops to iterate data retrieved from queries that return a high number of rows.  
D.Use methods from the “Limits” class to monitor governor limits.**

102- How should a developer create a new custom exception class?  
**A.public class CustomException extends Exception{}.**  
B.public class CustomException implements Exception{}.  
C.CustomException ex = new (CustomException)Exception();  
D.(Exception)CustomException ex = new Exception();

103- A newly hired developer discovers that there are multiple triggers on the case object.  
What should the developer consider when working with triggers?  
**A.Trigger execution order is not guaranteed for the same sObject.**  
B.Trigger execution order is based on creation date and time.  
C.Unit tests must specify the trigger being tested.  
D.Developers must dictate the order of trigger execution.

104- A lead object has a custom field Prior\_Email\_\_c.   
The following trigger is intended to copy the current Email  
Prior\_Email\_\_c field any time the Email field is changed:  
trigger test on Lead (before update) {  
 for(Lead Id: trigger.new){  
 If (Id.Email != trigger.oldMap.get (Id.id).email){  
 Id.Prior\_Email\_\_c = trigger.oldMap.get (Id.id).email;  
 Update Id;  
 }  
 }  
}  
  
Which type of exception will this trigger cause?  
**A.A DML exception.**B.A null reference exception.  
C.A compile time exception.  
D.A limit exception when doing a bulk update.

105- A developer created a Visualforce page and a custom controller with methods to handle different buttons and event that can occur on the page. What should the developer do to deploy to production?  
A.Create a test page that provides coverage of the custom controller.  
**B.Create a test class that provides coverage of the custom controller.**  
C.Create a test class that provides coverage of the Visualforce page.  
D.Create a test page that provides coverage of the Visualforce page.

106- Which three options allow a developer to use custom styling in a Visualforce page? [Ref](https://developer.salesforce.com/docs/atlas.en-us.pages.meta/pages/pages_compref_stylesheet.htm)  
Choose 3 answers  
**A.<apex: stylesheet> tag.**  
B.<apex: style> tag.  
**C.A static resource.**  
D.<apex: stylesheets> tag.  
**E.Inline CSS.**

107- Before putting an app into production which step should be taken?  
**A.Run the Production Check feature via the web interface.**  
B.Switch to a production database.  
C.Scale your Dynos.  
D.Insure that you have installed a performance introspection add-on.

108- A developer needs to create a visualforce page that displays case data. The page will be used by both support reps and support managers. The support Rep profile does not allow visibility of the customer\_satisfaction\_\_c field,but the support Manager profile does  
How can the developer create the page to enforce field level security and keep future maintenance to minimum? [Ref](https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex_pages.htm?search_text=custom%20controller)  
A.Create one visualforce page for use by both profiles.  
**B.Use a custom controller has the with sharing keywords.**  
C.Use a new support manager permission sets.  
D.Create a separate visualforce page for each profile.

109- Given  
Map<ID,Account> accountMap = new map<ID,Account> ([select id,name from account]):  
What are three valid apex loop structures for iterating trough items in the collection? Choose 3 answers  
**A.For(ID accountID : accountMap.KeySet()){..}  
B.For(Account accountRecord:accountmap.values()){..}  
C.For(integer i=0;i< accountMap.Size();i++{..}**  
D.For(Id accountID : accountMap){..}  
E.For(Account accountRecord : accountMap.keyset()){..}

110- what should a developer use to implement an automate approval process submission for case?  
A. A workflow rules.  
B.Scheduled apex.  
**C.Process builder.**D.An assignment rules.

111- What are the three ways for a developer to execute tests in a org? [Ref](https://developer.salesforce.com/docs/atlas.en-us.214.0.api_meta.meta/api_meta/meta_intro.htm) Choose 3 answers  
**A.Developer Console.**  
B.Bulk API.  
C.Metadata API  
**D.Tooling API.   
E.Setup Menu.**

112- When an Account’s custom picklist field called Customer sentiment is changed to a value of “Confused,” a new related case should automatically be created.  
Which two methods should a developer use to create this case? Choose 2 answers.  
A.Custom Button.  
**B.Process Builder.  
C.Apex Trigger.**  
D.Workflow Rule.

113- A developer working on a time management application wants to make total hours for each timecard available to application users. A timecard entry has a Mater-Detail relationship to a timecard. Which approach should the developer use to accomplish this declaratively?  
A. A visualforce page that calculates the total number of hours for a timecard and displays it on the page.  
B.An Apex trigger that uses an Aggregate Query to calculate the hours for a given timecard and stores it in a custom field.  
C.A Roll-up Summary field on the Timecard Object that calculates the total hours from timecard entries for that timecard.  
**D.A Process Builder process that updates a field on the timecard entry is created.**

114- Which two platform features align to the controller portion of MVC architecture? Choose 2 Answers  
**A.Standard objects.**B.Process builder actions.  
**C.Date Fields.**  
D.Workflow rules.

115- A developer needs to test an Invoicing system integration. After reviewing the number of transactions required for the test, the developer estimates that the test data will total about 2GB of data storage. Production data is not required for the integration testing.  
Which two environments meet the requirements for testing? [Ref](https://help.salesforce.com/articleView?id=deploy_sandboxes_limits.htm&type=5) Choose 2 answers  
**A.Full sandbox.**  
B.Developer Sandbox.  
C.Developer Edition.  
**D.Partial Sandbox.**

116- A developer has the controller class below;  
Public with sharing class myFootController {  
 Public integer prop {get; private set;}  
}  
Which code block will run successfully in an execute anonymous window?  
**A.myFootContoller m = new myFootController(); System.assert{m.prop ==null);**  
B.myFootController m = new myFootController(); system.assert{m.prop !=null);  
C.myFootController m = new myFootController(); system.assert(m.prop ==0);  
D.myFootController m – new myFootController(); system.assert{m.prop ==l);

117- Which tools allows a developer to send requests to salesforce REST APIs and view the responses? [Ref](https://developer.salesforce.com/docs/atlas.en-us.api_rest.meta/api_rest/quickstart_using_workbench.htm)  
A.Force.com IDE REST Explore tab.  
B.Developer Console REST tab.  
**C.Workbench REST Explorer.**D.REST resource path URL.