```
Terraform Certified Associate
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Q-1
A backend in terraform determines how state is loaded & where the updates are
stored when _____ is executed

    destroy
    taint
    refresh
    apply
    all of the above  [X]
    none

Q-2.
To which of the following does "terraform apply" makes changes after approval?
Choose two

    cloud infrastructure     [X]
    terraform code
    state file               [X]
    the execution plan

Q-3.
What information is automatically exposed for modules published to the public
terraform module registry?

    optional inputs variables and default values
    required input variables
    outputs
    all of above
    none                    [X]

Q-4.
Which are examples of infrastructure as code? Choose two

    versioned configuration files    [X]
    docker files                     [X]
    change management database records
    cloned virtual machines

Q-5.
Which argument is required when declaring a terraform variable

    description
    default
    type
    all of above
    none             [X]

Q-6.
Consider a resource block
    resource "google_compute_instance" "main" {
        name = "test"
    }
What is the name assigned by terraform to reference this record?

    main             [X]
    test
    compute_instance
    google
```

Q-7.
You want to know which paths terraform is loading providers referenced in your terraform configuration (.tf) files. You need to enable debug messages to find this out. Which of the following would achieve this?

    set environment variable TF_VAR_log=TRACE
    set environment variable TF_LOG_PATH
    set environment variable TF_LOG=TRACE   [X]
    set verbose logging for each provider in your terraform configuration

Q-8.
You have come across a rare situation where you need to force a dependency manually.
What resource meta-parameter you can specify to ensure that an explicit dependency exists?

    depends_on

Q-9.
What is terraform refresh used to detect?

    terraform configuration code changes
    empty state files
    state file drift   [X]
    corrupt state files

Q-10.
What command should you run to display all workspaces for current configuration?

    terraform workspace show
    terraform workspace list   [X]
    terraform workspace
    terraform show workspace

Q-11.
"terraform validate" validates the syntax of terraform files.

    true   [X]
    false

Q-12.
While deploying virtual machine, the first launch "user_data" scripts fails due to race condition with another resource deployed during same terraform run. What is the least disruptive method to correct the issue?

    restart virtual machine from the cloud portal
    run "terraform apply" again
    run "terraform destroy" then "terraform apply"
    run "terraform taint" against the virtual machine & run "terraform apply"
[X]

Q-13.
You have a simple terraform configuration containing one virtual machine in cloud provider. You run "terraform apply" and the VM is created successfully.

What will happen if you delete the VM using cloud console, and run "terraform apply" again without changing terraform code?

    terraform will not make any changes
    terraform will recreate VM   [X]
    terraform will remove VM from state file
    terraform will create another duplicate VM

Q-14.
Module variable assignments are inherited from the parent module and do not need
to be explicitly set

    true
    false   [X]

Q-15.
What is the name of the default file where terraform stores the state?

    terraform.tfstate

Q-16.
Which of the following is NOT a key principle of IaC?

    self describing infrastructure
    golden images   [X]
    idempotence
    versioned infrastructure

Q-17.
You have deployed a new webapp with a public IP address on cloud. However, you
did not create any outputs for your code. What is the best method to quickly
find the IP address of the resource you deployed?

update code to include an output for the public IP address and run "terraform
      output"
run "terraform state list" to find the name of resource and then run "terraform
      state show" to find the attributes including public IP address   [X]
in a new folder, use the "terraform_remote_state" data source to load in the
      state file and then write an output for each resource thta you find the
      state file
run "terraform destroy" and then "terraform apply" and look for the IP
      address

Q-18.
Which of the following statements about terraform modules is NOT true?

    modules can be called multiple times
    module is a container for one or more resources   [X]
    modules can call other modules
    modules must be publicily accessible and open source

Q-19.
"terraform init" initialize a sample "main.tf" file in current directory

    true
    false   [X]

Q-20.
Your security team ran a scan against some terraform workspaces and found
secrets, keys and password stored in plain text in state files. How can you
prevent exposure of sensitive data stored in terraform state files?

    edit your state file to scrub out the sensitive data
    store the state in a encrypted backend   [X]
    delete the state file every time you run terraform
    always run terraform with -secure flag

Q-21.
Third party plugins are automatically downloaded when you do "terraform init"

    true
    false   [X]

Q-22.
You have just developed a new terraform configuration for two VM. You would like
to create the infrastructure for the first time. Which command should you
run first?

    terraform apply
    terraform start
    terraform plan
    terraform init   [X]

Q-23.
What does running "terraform plan" do?

compares state file to your terraform code and determines if changes needed
compares your terraform code & local state file to the remote state file in
      cloud provider & determines if any changes are needed
compares your terraform code to the cloud provider and determine if changes
      need to be made
compares your state file to the cloud provider and determines if any changes
      need to be made   [X]

Q-24.
You are building a CI/CD pipeline and need to inject sensitive variables into
your terraform run. How to do it safely?

    store sensitive variables as plain text in a source code repository
    copy the sensitive variables into your terraform code
    store the sensitive variables in "secure_vars.tf" file
    pass variables to terraform with -var flag   [X]

Q-25.
Terraform variable names are saved in state file

    true
    false   [X]

Q-26.
A unique remote backend configuration is required for every workspace managed
through a remote backend

    true   [X]
    false

Q-27.
Which of the following is available only in terraform enterprise or cloud
workspaces and not in terraform CLI?

    secure variable storage   [X]
    using the workspace as data source
    dry runs with "terraform apply"
    support for multiple cloud providers

Q-28.
Terraform provisioners that requires authentication can use ____ block

    secrets
    credentials
    ssh
    connection   [X]

Q-29.
Which of the following is the correct way to pass the value in the variable
num_servers into a module with the input servers?

    servers = num_servers
    servers = variable.num_servers
    servers = var(num_servers)
    servers = var.num_servers   [X]

Q-30.
If a module declares a variable with a default, that variable must still be set
in the module declaration

    true   [X]
    false

Q-31.
Terraform requires the Go runtime as a prerequisite for installation

    true
    false   [X]

Q-32.
If you manually destroy infrastructure, when will the change be reflected in
terraform?

    as soon as you manually update the state file
    immediately
    the next time terraform refresh is trigerred   [X]
    none of above

Q-33.
Terraform and Terraform providers must use the same major version number in
single configuration

    true
    false   [X]

Q-34.
Which is not the benefit of remote state?

    remote operations
    easily share reuseable code modules   [X]
    working in a team
    keeping unencrypted sensitive information off disk

Q-35.
Consider a ficticious resource block that has a single required argument "name"
    resource "kubernetes_namespace" "example" {
        name = "test"
    }
What is the HCL syntax to reference the attribute "name" in the resource?

    kubernetes_namespace.test.name
    data.kubernetes_namespace.name
    resource.kubernetes_namespace.example.name

```
    kubernetes_namespace.example.name          [X]
    none of above
```

Q-36.
You never used terraform before. The shared team account already contains 15
virtual machines. You develop a terraform configuration for one VM, perform
"terraform apply" and see it was success. What should you do to delete the
newly-created VM with terraform?

```
terraform state file contains all 16 VM. Execute terraform destroy and select
      newly created VM
delete the VM using cloud console and "terraform apply" to apply changes to
      state file
terraform state file only contains the one new VM. Execute "terraform destroy"
[X]
delete the state file and execute "terraform apply"
```

Q-37.
HashiCorp Configuration Language supports user defined functions

```
    true
    false          [X]
```

Q-38.
Where can a terraform provider not be loaded from?

```
    plugin directory
    provider plugin cache                     [X]
    official HashiCorp distribution on release.hashicorp.com
    source code
```

Q-39.
"terraform apply" will fail if you don't run "terraform plan" first

```
    true
    false          [X]
```

Q-40.
Which is the downside of using dynamic blocks in terraform configuration?

```
    causes terraform to run more slowly
    cannot be used to loop through a list of values
    makes code harder for others to read & understand        [X]
    requires the dynamic provider engine
```

Q-41.
Your risk management organization has mandated that any AWS S3 bucket must be
private and encrypted at rest. All cloud provisioning happens with Terraform
Enterprise. Whats the best way to enforce this security control automatically?

```
    write a terraform policy
    use vulnerability scanning tool to inspect all cloud storage buckets
    create a S3 module with proper settings for bucket
    write a sentinel policy          [X]
```

Q-42.
Where does terraform local backend store its state?

```
    in the "terraform.tfstate" file          [X]
    in the user's .terrraformrc file
    in the /tmp/ directory
    in the terraform.tfvars file
```

Q-43.
In terraform HCL an object type of "object({ name=string, age=number }) would match
a value like the following:

```
{ name = John
  age = "52"}

{ name = John
  age = fifly two }

{ name = "John"              [X]
  age = 52 }

{ name = "John"
  age = fifty two }
```

Q-44.
You have multiple team members collaborating on IaC using terraform, and want to
apply formatting standards for readibility. How can you format HCL code
according to standard terraform style convention?

run the "terraform fmt" command during the code linting phase of CI/CD   [X]
designate one person in each team to review code
manually apply two spaces indentation and align equal sign "=" characters in
      .tf file
write a shell script to transform files using python, awk

Q-45.
As a member of operations team, you need to run a script on virtual machine
created by terraform. which provisioner is best to use in your terraform code?

```
null-exec
local-exec
file
remote-exec         [X]
```

Q-46.
Which of these options is the most secure place to store secrets for connecting
to a terraform backend?

```
defined in a connection configuration outside terraform
inside the backend block within the terraform configuration
defined as terraform variables with default values
none of above            [X]
```

Q-47.
How is "terraform import" run?

```
as a part of "terraform refresh"
by an explicit call                 [X]
as a part of "terraform init"
as a part of "terraform plan"
all of above
```

Q-48.
Both terraform cloud and terraform enterprise support policy as code (sentinel)

```
true           [X]
false
```

Q-49.
Only the user that generated the plan may apply it.

    true
    false   [X]

Q-50.
When using a module block to reference a module stored on github like
git::https://example.com/vpc.git , how do you specify version 1.0.0

    append "?ref=v1.0.0" argument to the source path
    modules stored on github do not support versioning
    nothing - modules on github always default to version 1.0.0
    add "version = 1.0.0" parameter to module block   [X]

Q-51.
Consider the terraform 0.12 code
    resource "aws_instance" "web" {
        for_each = {
            "terraform": "value1",
            "resource": "value2",
            "indexing": "value3",
            "example": "value4",

        }
    }

Which of the following refers to the indexing instance in the config?

    aws_instance-web["indexing"]
    aws_instance.web["indexing"]   [X]
    aws_instance["web"]["indexing"]
    aws_instance.web{"example"}

Q-52.
You want to create some new infrastructure on cloud using terraform from
scratch. How can you iteratively develop terraform code for your infrastructure?

terraform plan to import the current infra to state file, make code changes and
      apply "terraform apply" to update the infra
create infrastructure in cloud UI. run "terraform init" to generate terraform
      code from the infrastructure created. use "terraform apply" to update
write terraform code, "terraform plan" tp load the code in state file. run
      "terraform apply"
to create infrastructure write terraform code, "terraform plan" to view,
      "terraform apply" to create   [X]

Q-53.
You need to deploy resources into two different cloud regions in the same
terraform configuration. To do that, you declare multiple providers as follows:
    provider "aws" {
        region = "us-east-1"
    }

    provider "aws" {
        alias = "west"
        region = "us-west-2"

    }
Which meta-argument do you need to configure to deploy resource in "us-west-2"
region?

    alias = west
    provider = west

```
    provider = aws.west      [X]
    alias = aws.west
```

Q-54.
What benefits do terraform providers provide? Choose 3

```
    provision resources for public cloud infra services     [X]
    simply API interactions
    provision resources for on-premise infrastructure       [X]
    enforce security and compliance policies
    group a collection of terraform configuratoin files that map to a single
      state file  [X]
```

Q-55.
You have been working on cloud account shared with team. You previously used
terraform to create a load balancer that listen on port 80. After some
application changes, you updated the terraform code to change to port 443.
You run "terraform plan" and see the plan shows changing port from 80 to 443
like you wanted. In meanwhile some team member manually changed the port to 443
using cloud console What will happen when you run "terraform apply"?

```
    terraform will change port back to 80 in your code
    terraform will change the load balancer port to 80 and then again change to
      443
    terraform will fail as state file is no longer accurate
    terraform will not make any changes                      [X]
```


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