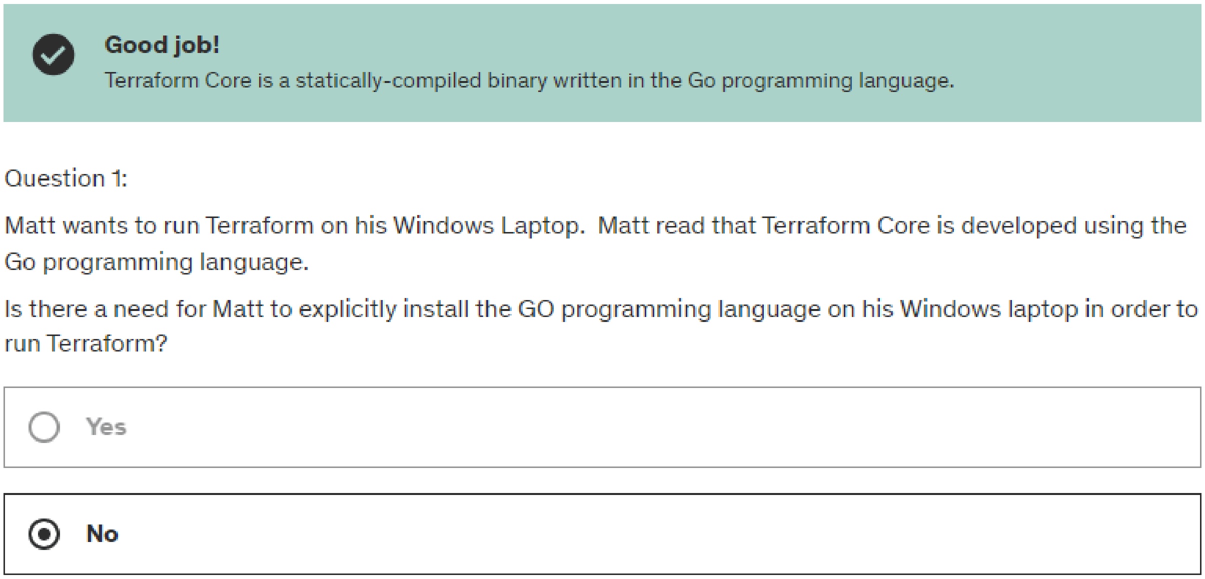


✓ **Good job!**

Terraform Core is a statically-compiled binary written in the Go programming language.

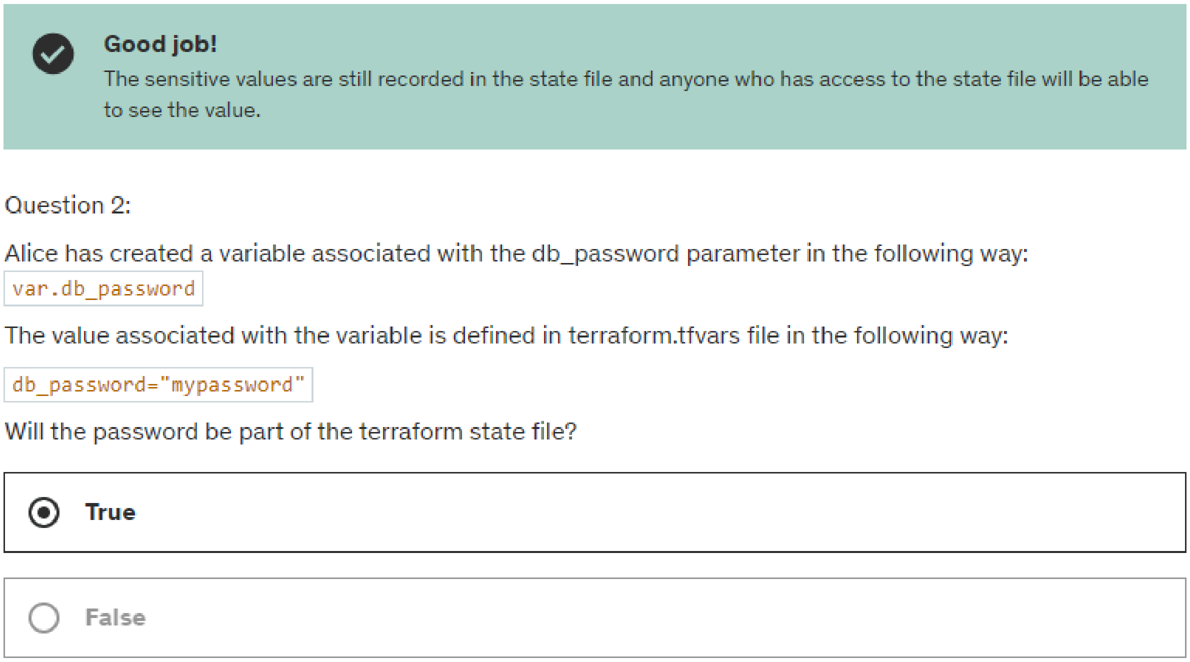
Question 1:

Matt wants to run Terraform on his Windows Laptop. Matt read that Terraform Core is developed using the Go programming language.

Is there a need for Matt to explicitly install the GO programming language on his Windows laptop in order to run Terraform?

○ Yes

● **No**



✓ **Good job!**

The sensitive values are still recorded in the state file and anyone who has access to the state file will be able to see the value.

Question 2:

Alice has created a variable associated with the db_password parameter in the following way: `var.db_password`

The value associated with the variable is defined in terraform.tfvars file in the following way:

```
db_password="mypassword"
```

Will the password be part of the terraform state file?

● **True**

○ False

Good job!

This was discussed in Lecture 51: **Fetching Data from Maps and List in Variable** ›

Question 3:

Following is the snippet of Terraform code that is part of the AWS VPC Module.

```
variable "vpc_cidr_block" {
  type = map
  default = {
    us-east-1 = "192.168.10.0/24"
    ap-south-1 = "192.168.20.0/24"
    us-west-2  = "10.77.0.0/16"
  }
}
```

If there is a requirement to fetch the value of `10.77.0.0/16` associated with a specific variable?

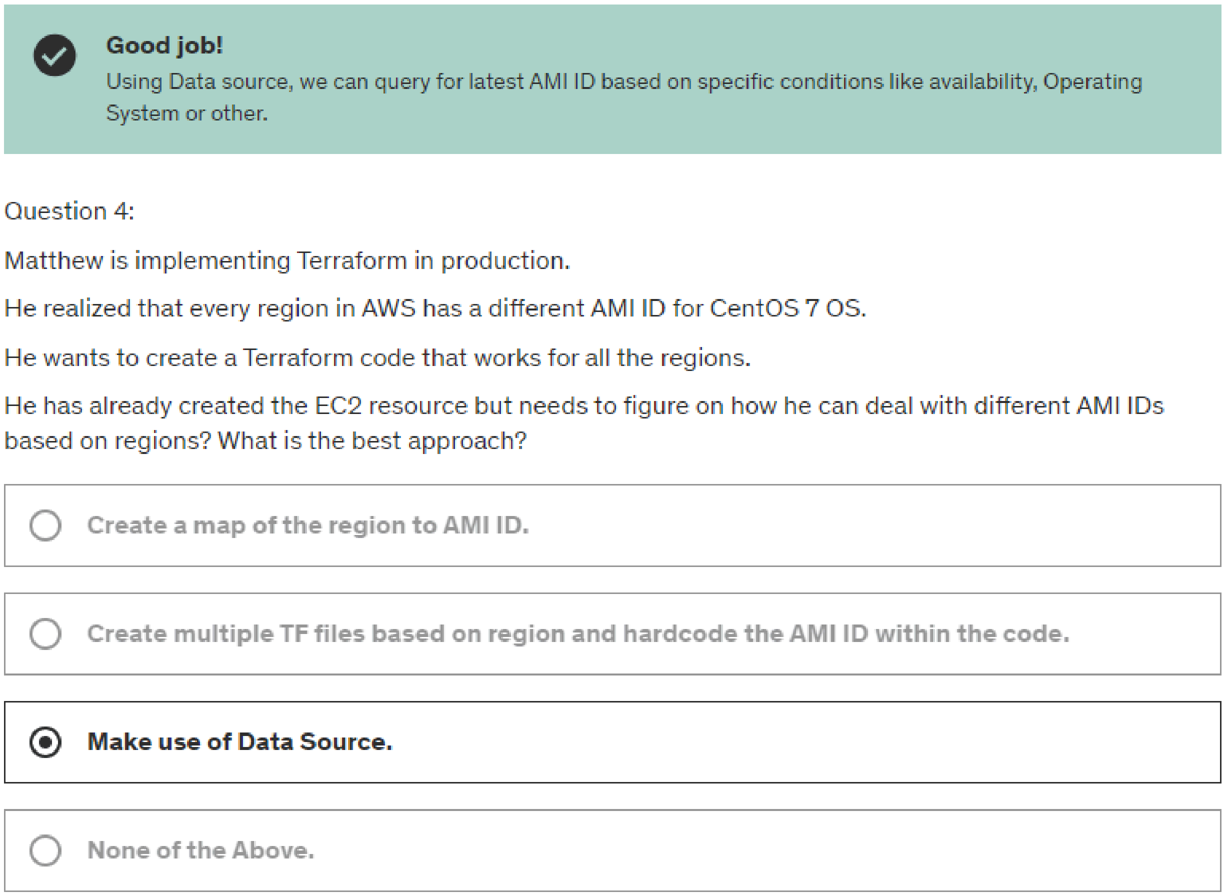
○ var.vpc_cidrs_block[0]

○ var.vpc_cidrs_block[1]

○ var.vpc_cidrs_block[2]

○ var.vpc_cidrs_block[3]

● **var.vpc_cidrs_block["us-west-2"]**



✓ **Good job!**
Using Data source, we can query for latest AMI ID based on specific conditions like availability, Operating System or other.

Question 4:

Matthew is implementing Terraform in production.

He realized that every region in AWS has a different AMI ID for CentOS 7 OS.

He wants to create a Terraform code that works for all the regions.

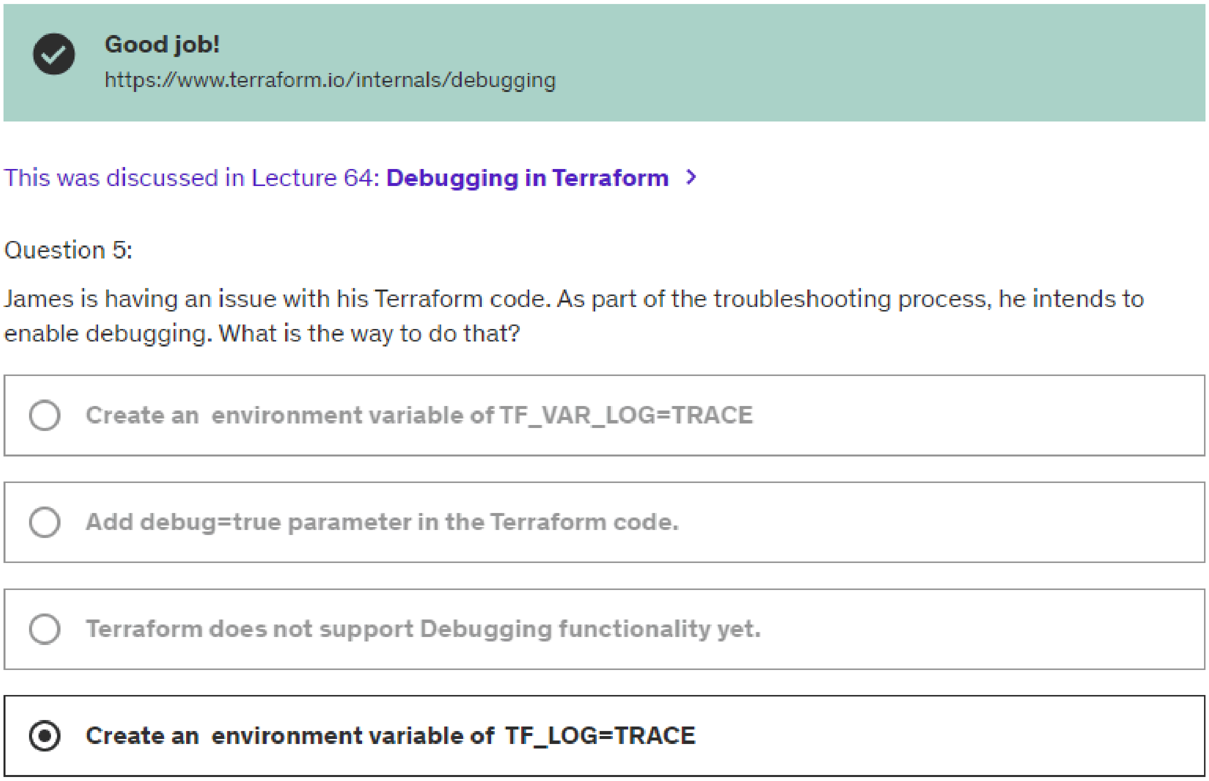
He has already created the EC2 resource but needs to figure on how he can deal with different AMI IDs based on regions? What is the best approach?

○ Create a map of the region to AMI ID.

○ Create multiple TF files based on region and hardcode the AMI ID within the code.

● **Make use of Data Source.**

○ None of the Above.



Good job!
https://www.terraform.io/internals/debugging

This was discussed in Lecture 64: **Debugging in Terraform** ›

Question 5:

James is having an issue with his Terraform code. As part of the troubleshooting process, he intends to enable debugging. What is the way to do that?

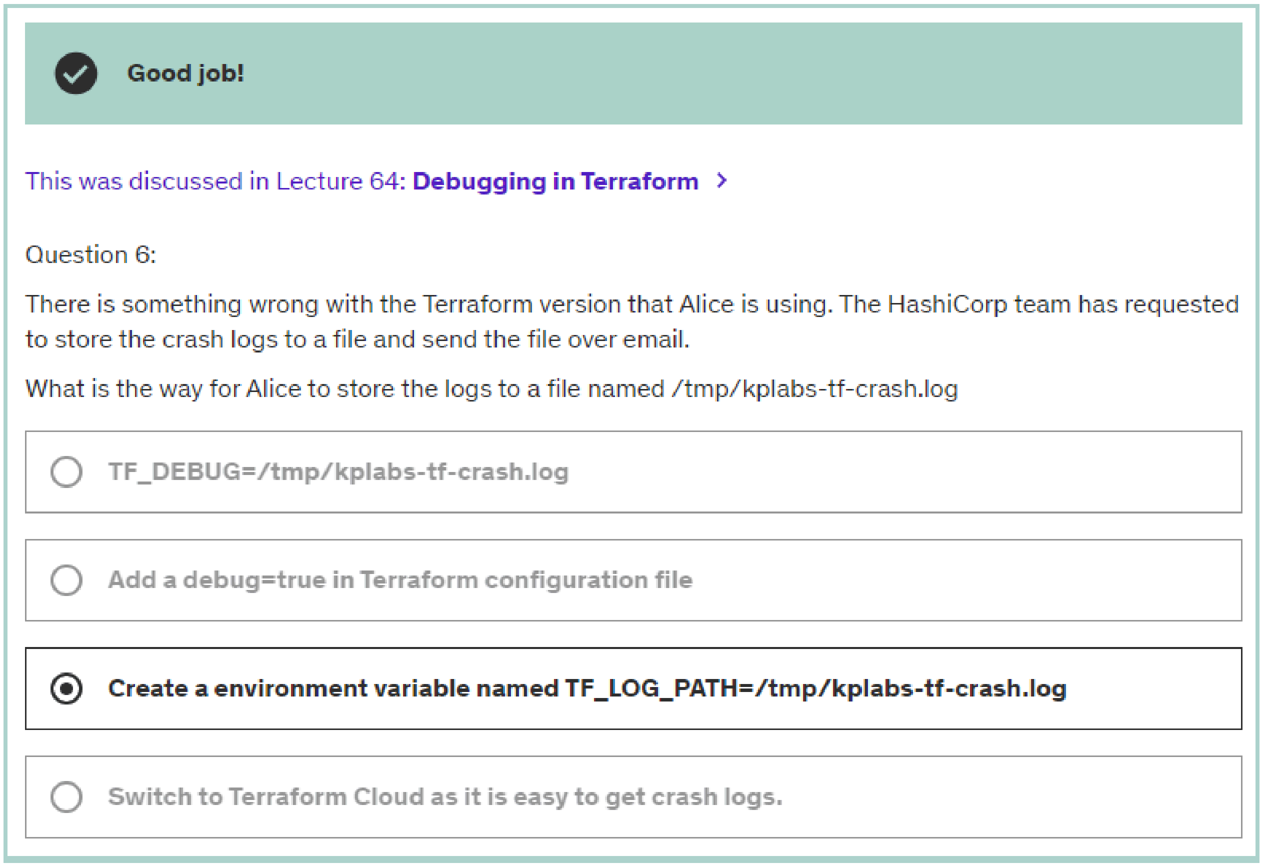
○ Create an environment variable of TF_VAR_LOG=TRACE

○ Add debug=true parameter in the Terraform code.

○ Terraform does not support Debugging functionality yet.

● Create an environment variable of TF_LOG=TRACE

https://www.terraform.io/internals/debugging



✓ **Good job!**

This was discussed in Lecture 64: **Debugging in Terraform** ›

Question 6:

There is something wrong with the Terraform version that Alice is using. The HashiCorp team has requested to store the crash logs to a file and send the file over email.

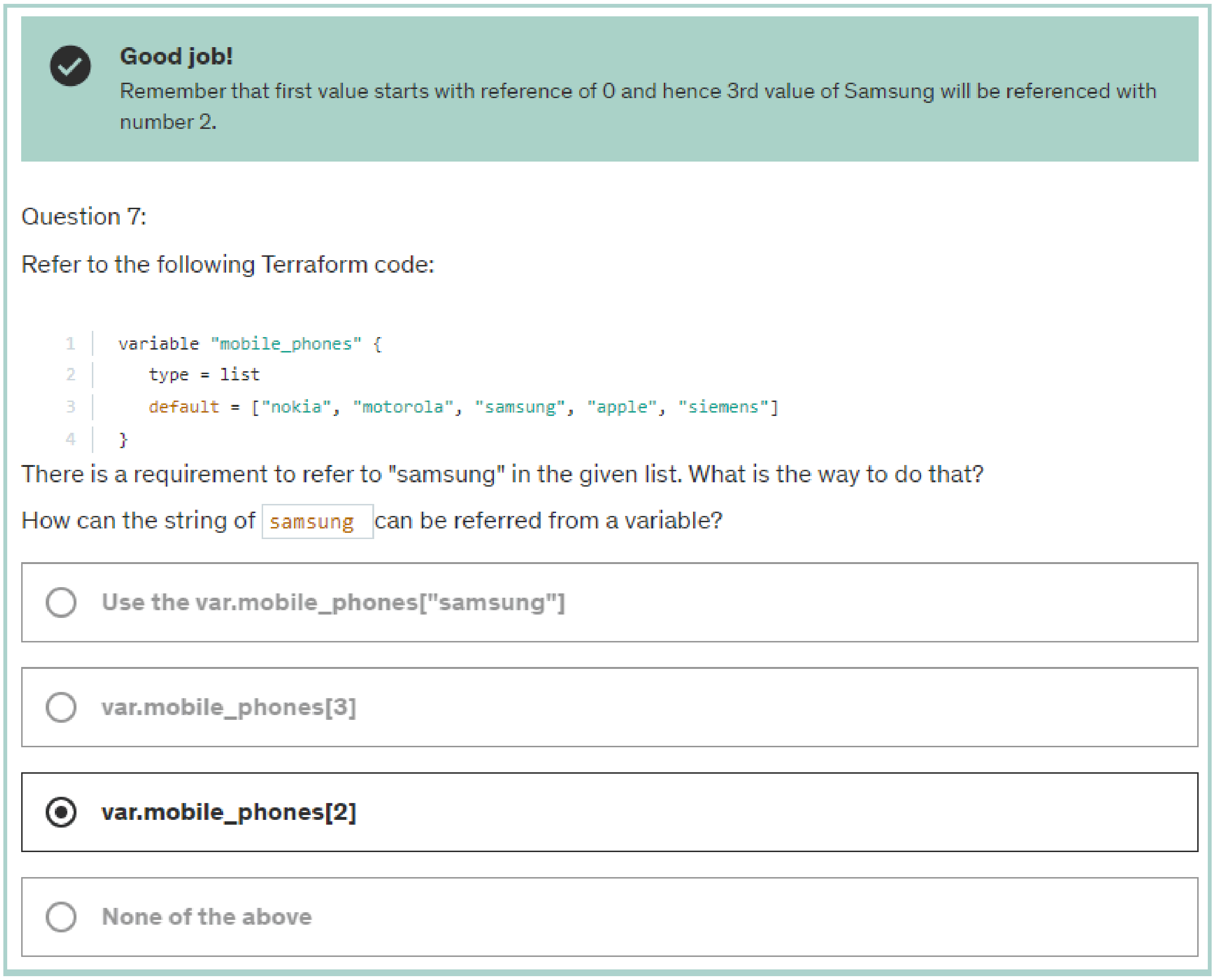
What is the way for Alice to store the logs to a file named /tmp/kplabs-tf-crash.log

○ TF_DEBUG=/tmp/kplabs-tf-crash.log

○ Add a debug=true in Terraform configuration file

● **Create a environment variable named TF_LOG_PATH=/tmp/kplabs-tf-crash.log**

○ Switch to Terraform Cloud as it is easy to get crash logs.



Good job!

Remember that first value starts with reference of 0 and hence 3rd value of Samsung will be referenced with number 2.

Question 7:

Refer to the following Terraform code:

```
variable "mobile_phones" {
   type = list
   default = ["nokia", "motorola", "samsung", "apple", "siemens"]
}
```

There is a requirement to refer to "samsung" in the given list. What is the way to do that?

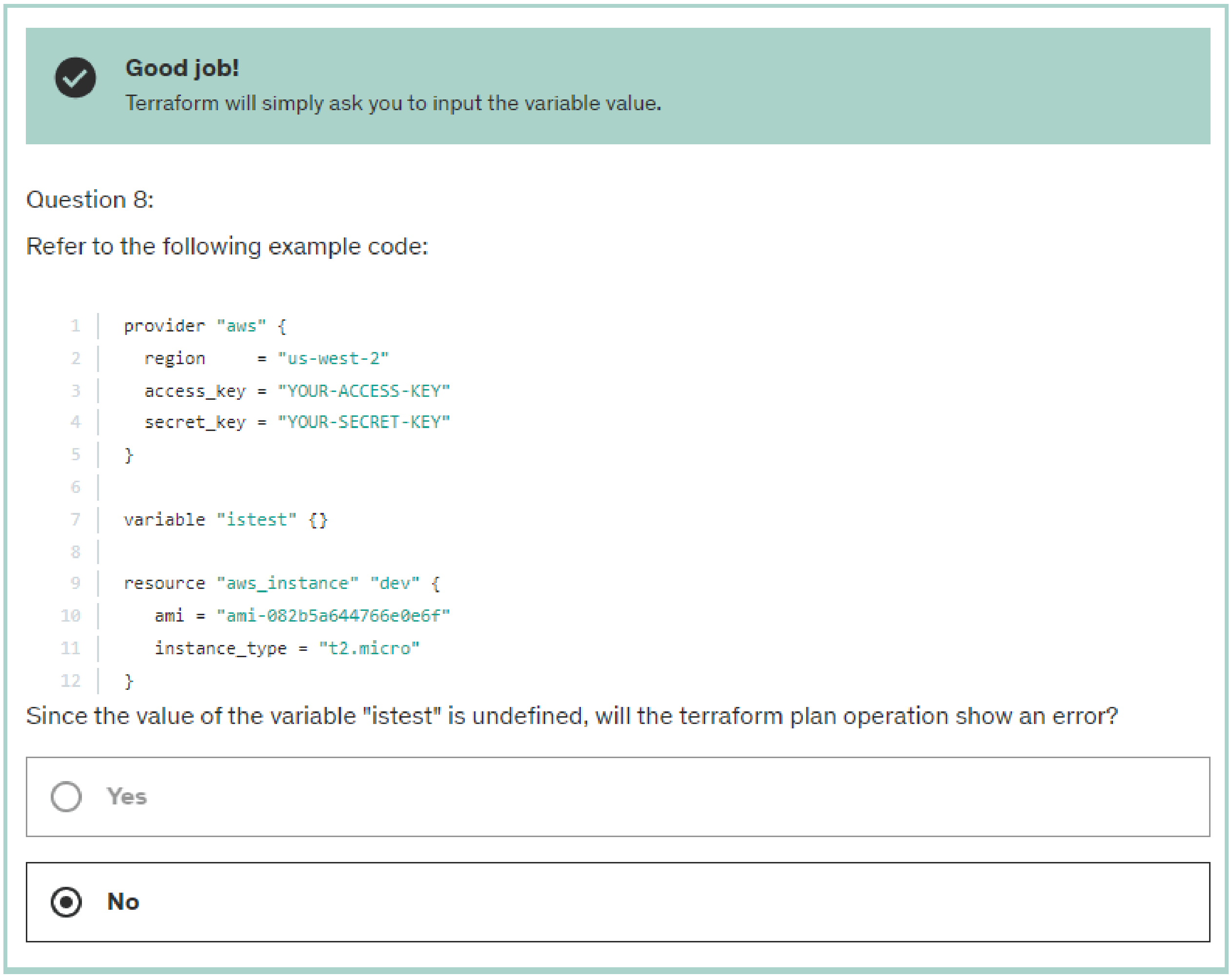
How can the string of `samsung` can be referred from a variable?

○ Use the var.mobile_phones["samsung"]

○ var.mobile_phones[3]

● **var.mobile_phones[2]**

○ None of the above



✓ **Good job!**

Terraform will simply ask you to input the variable value.

Question 8:

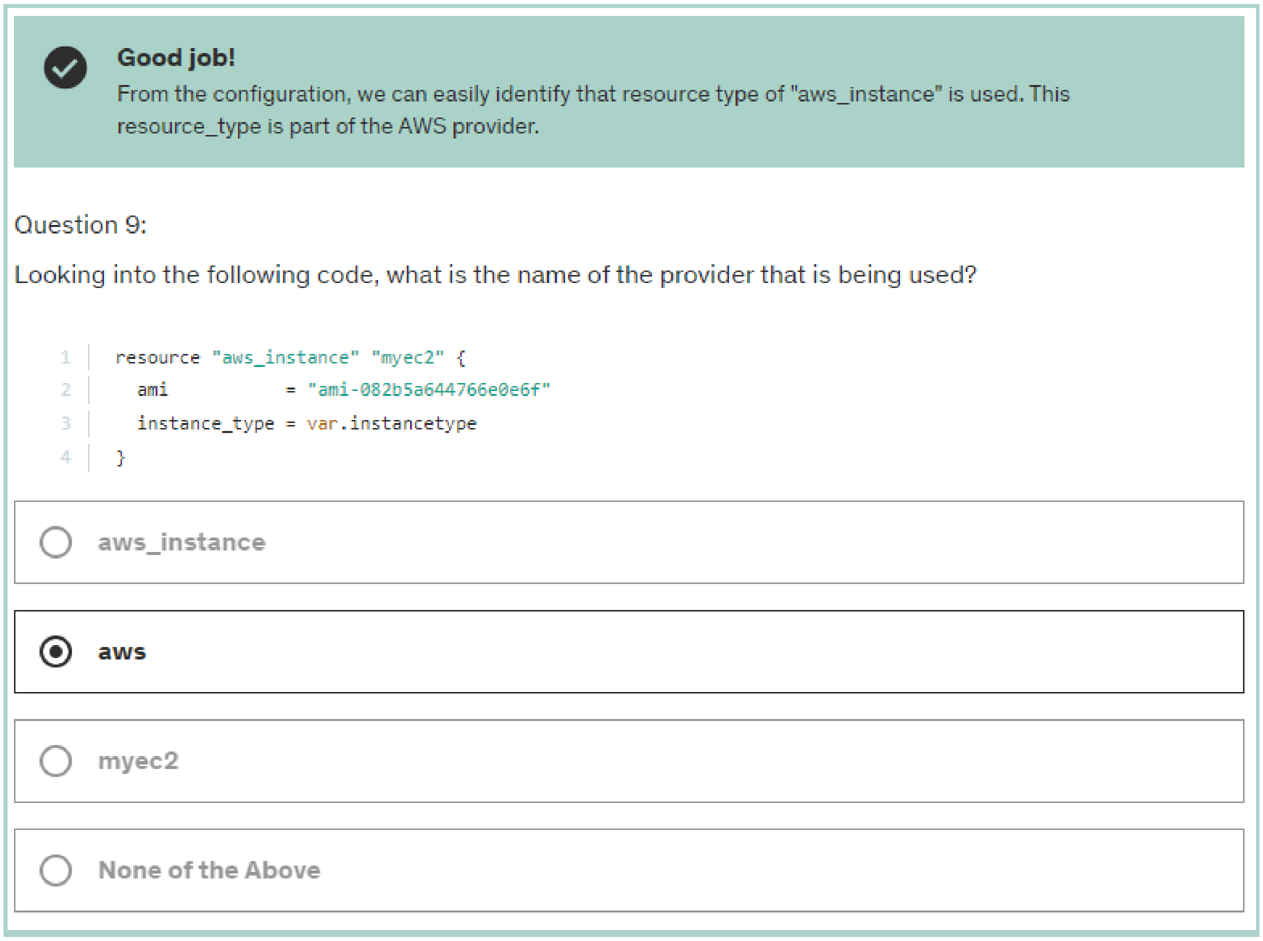
Refer to the following example code:

```
provider "aws" {
  region     = "us-west-2"
  access_key = "YOUR-ACCESS-KEY"
  secret_key = "YOUR-SECRET-KEY"
}

variable "istest" {}

resource "aws_instance" "dev" {
   ami = "ami-082b5a644766e0e6f"
   instance_type = "t2.micro"
}
```

Since the value of the variable "istest" is undefined, will the terraform plan operation show an error?

○ Yes

● **No**



Good job!

From the configuration, we can easily identify that resource type of "aws_instance" is used. This resource_type is part of the AWS provider.

Question 9:

Looking into the following code, what is the name of the provider that is being used?

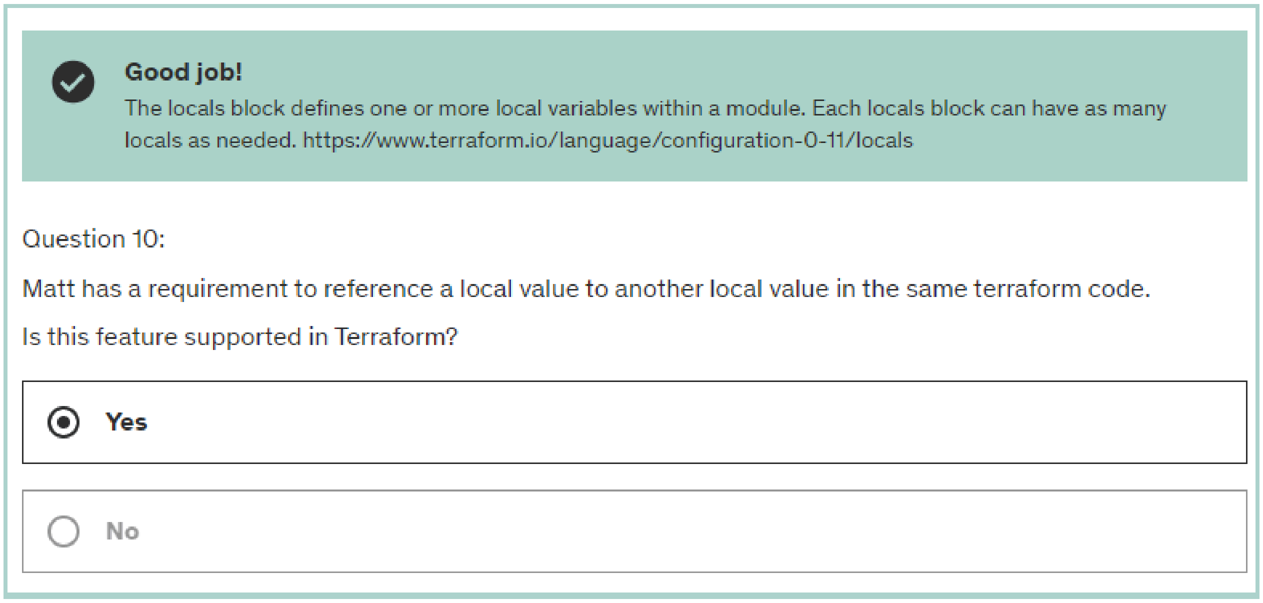
```
resource "aws_instance" "myec2" {
  ami           = "ami-082b5a644766e0e6f"
  instance_type = var.instancetype
}
```

○ aws_instance

● aws

○ myec2

○ None of the Above



Good job!

The locals block defines one or more local variables within a module. Each locals block can have as many locals as needed. https://www.terraform.io/language/configuration-0-11/locals

Question 10:

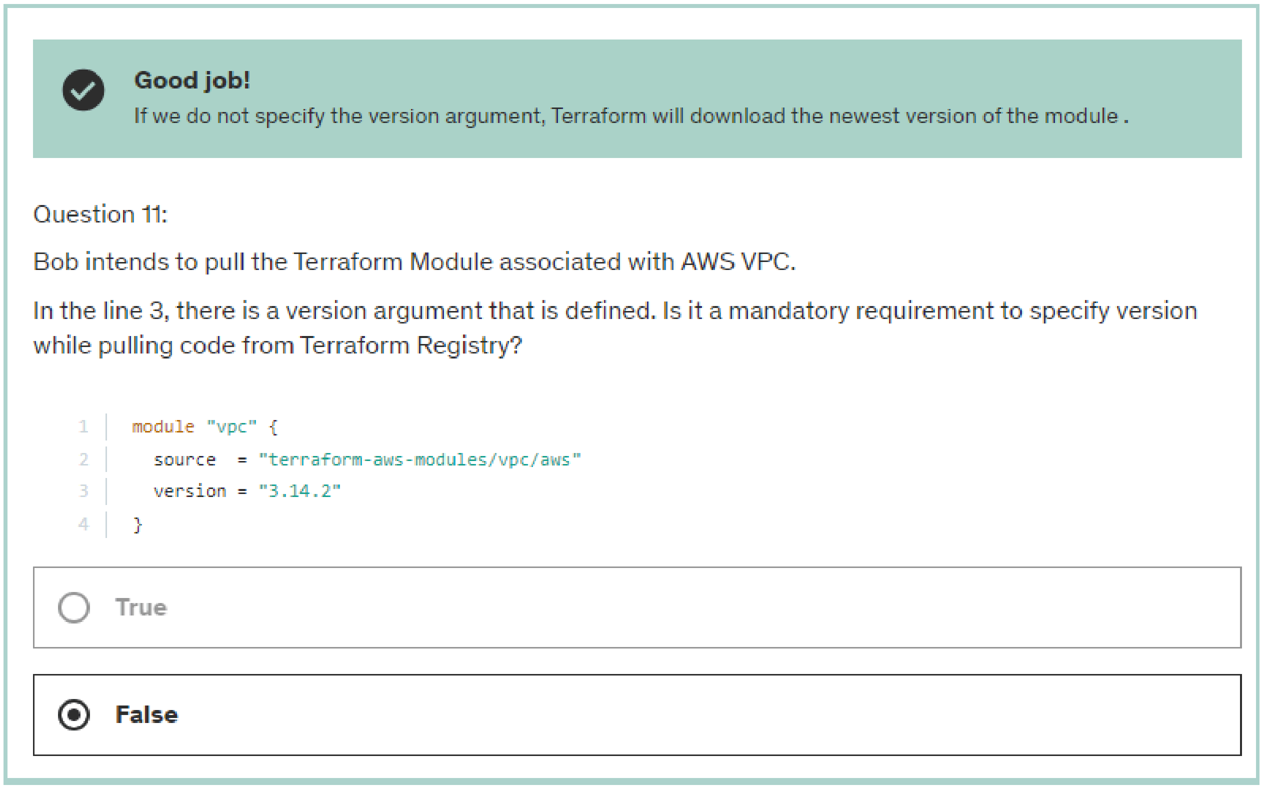
Matt has a requirement to reference a local value to another local value in the same terraform code.

Is this feature supported in Terraform?

● Yes

○ No

https://www.terraform.io/language/configuration-0-11/locals



Good job!

If we do not specify the version argument, Terraform will download the newest version of the module .

Question 11:

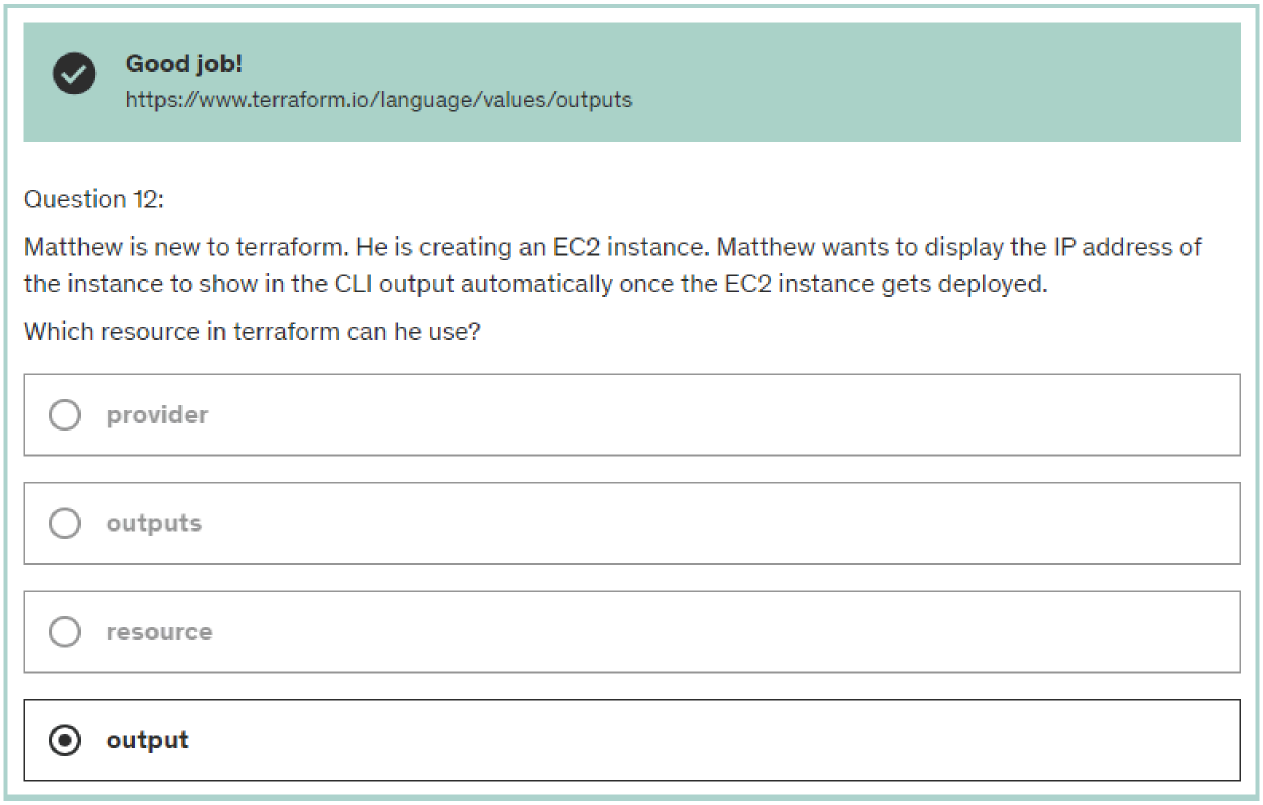
Bob intends to pull the Terraform Module associated with AWS VPC.

In the line 3, there is a version argument that is defined. Is it a mandatory requirement to specify version while pulling code from Terraform Registry?

```
1  module "vpc" {
2    source  = "terraform-aws-modules/vpc/aws"
3    version = "3.14.2"
4  }
```

○ True

● **False**



Good job!

https://www.terraform.io/language/values/outputs

Question 12:

Matthew is new to terraform. He is creating an EC2 instance. Matthew wants to display the IP address of the instance to show in the CLI output automatically once the EC2 instance gets deployed.

Which resource in terraform can he use?

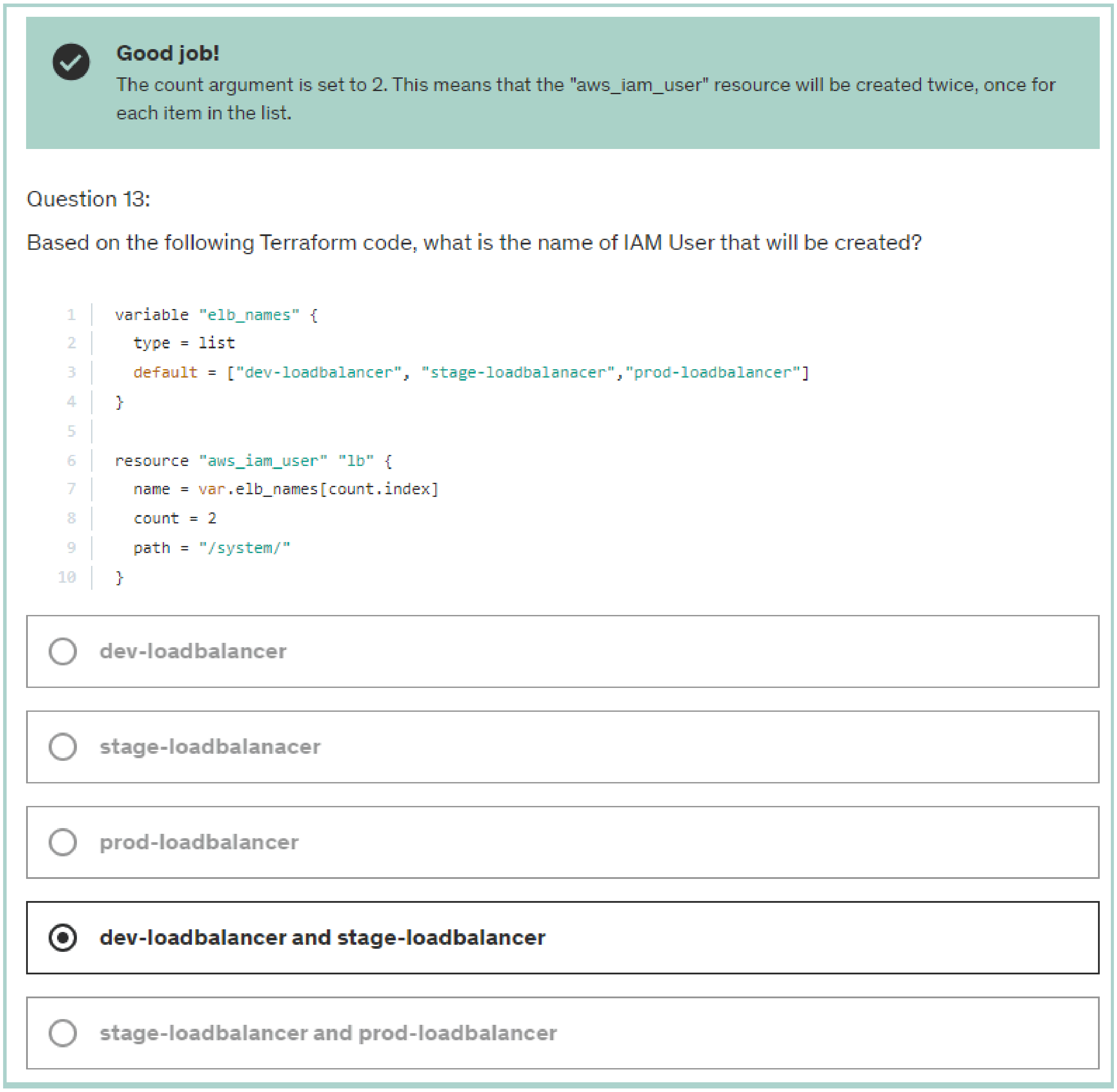
○ provider

○ outputs

○ resource

● **output**

https://www.terraform.io/language/values/outputs



Good job!

The count argument is set to 2. This means that the "aws_iam_user" resource will be created twice, once for each item in the list.

Question 13:

Based on the following Terraform code, what is the name of IAM User that will be created?

```
variable "elb_names" {
  type = list
  default = ["dev-loadbalancer", "stage-loadbalanacer","prod-loadbalancer"]
}

resource "aws_iam_user" "lb" {
  name = var.elb_names[count.index]
  count = 2
  path = "/system/"
}
```

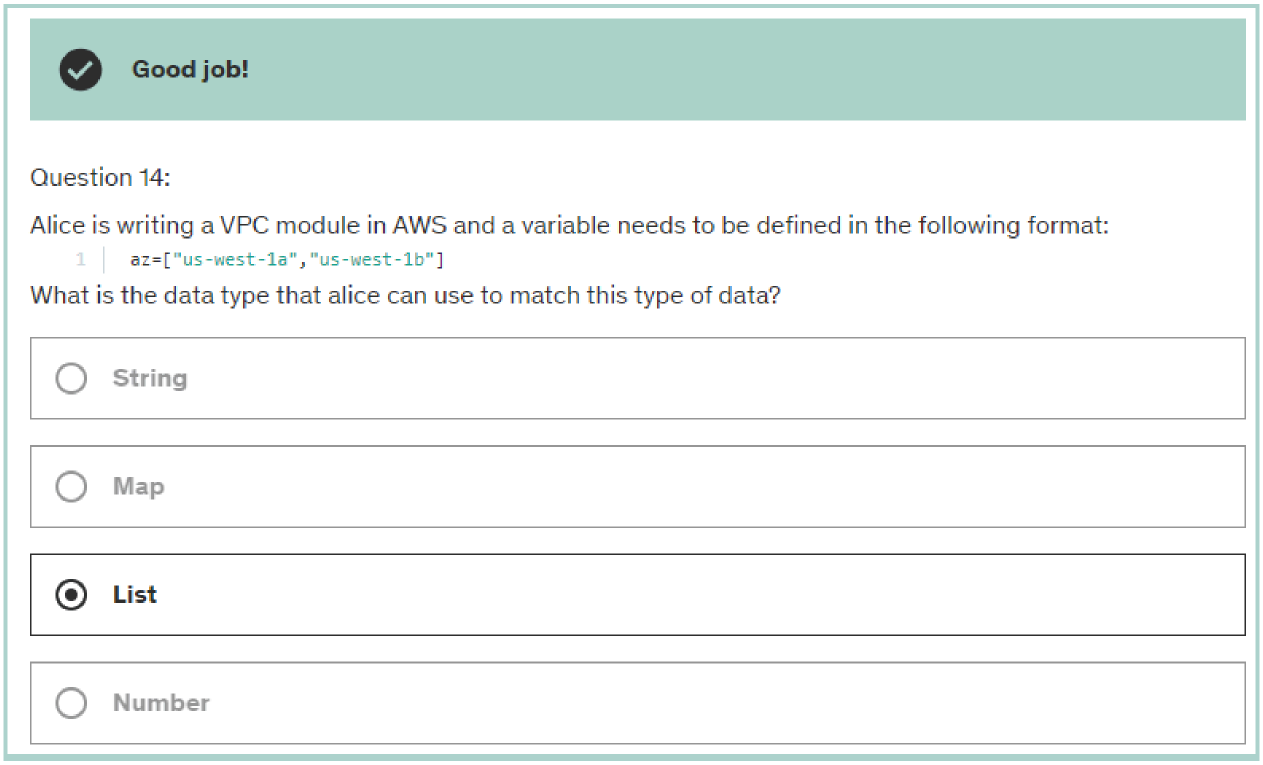
○ dev-loadbalancer

○ stage-loadbalanacer

○ prod-loadbalancer

● **dev-loadbalancer and stage-loadbalancer**

○ stage-loadbalancer and prod-loadbalancer



✓ **Good job!**

Question 14:

Alice is writing a VPC module in AWS and a variable needs to be defined in the following format:

```
az=["us-west-1a","us-west-1b"]
```

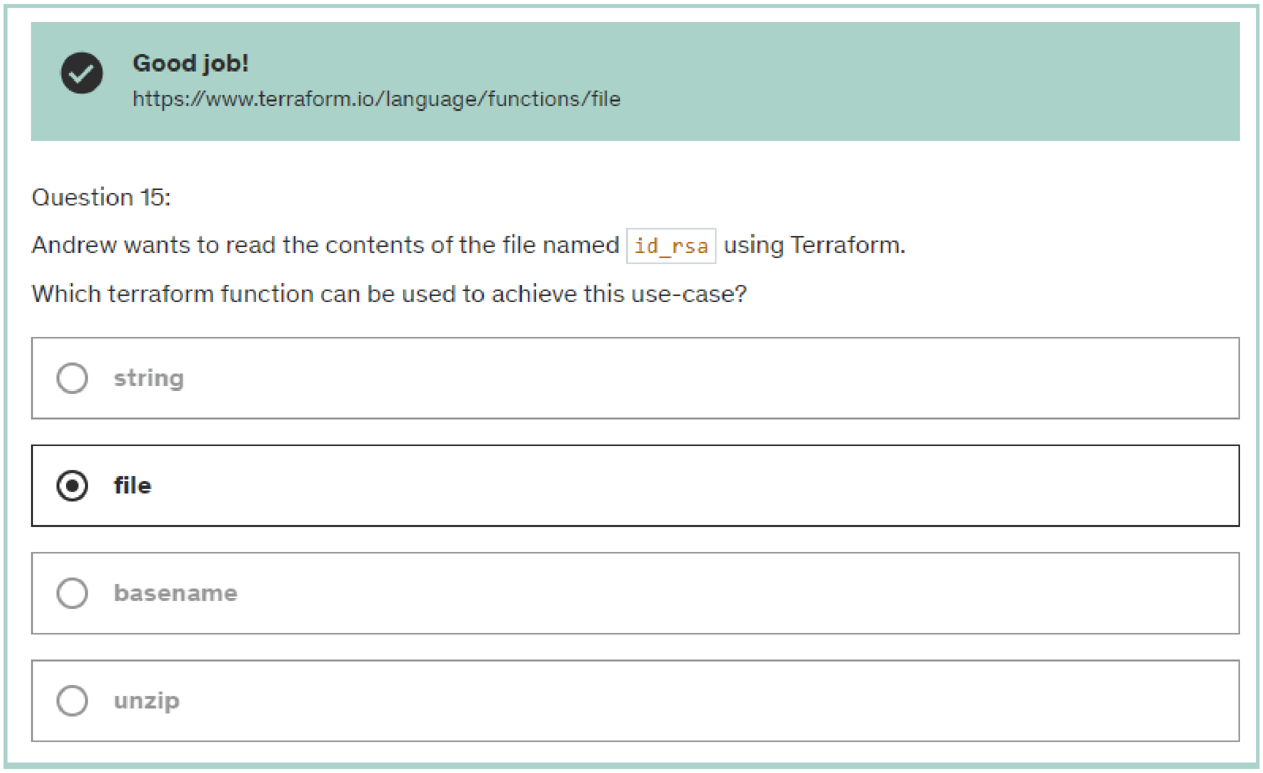
What is the data type that alice can use to match this type of data?

○ String

○ Map

● **List**

○ Number



✓ **Good job!**
https://www.terraform.io/language/functions/file

Question 15:

Andrew wants to read the contents of the file named `id_rsa` using Terraform.

Which terraform function can be used to achieve this use-case?

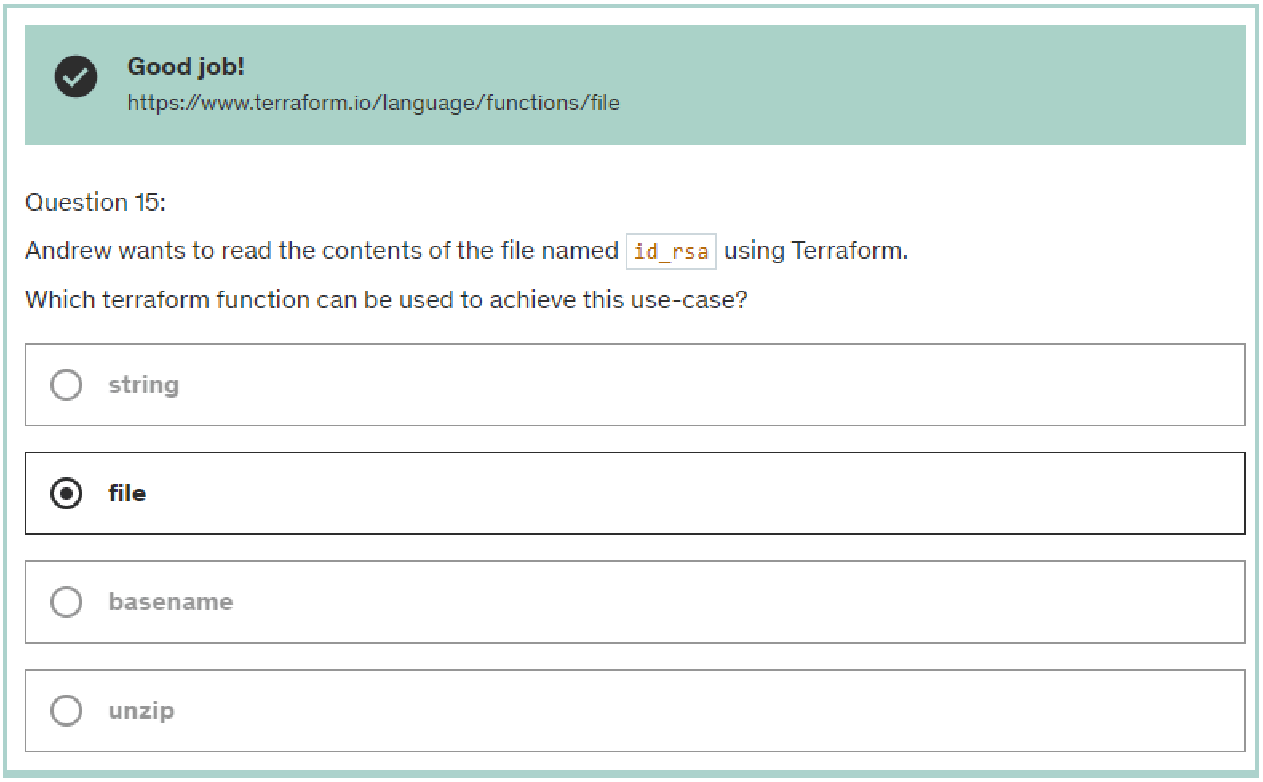
○ string

● **file**

○ basename

○ unzip

https://www.terraform.io/language/functions/file



Good job!
https://www.terraform.io/language/functions/file

Question 15:

Andrew wants to read the contents of the file named `id_rsa` using Terraform.

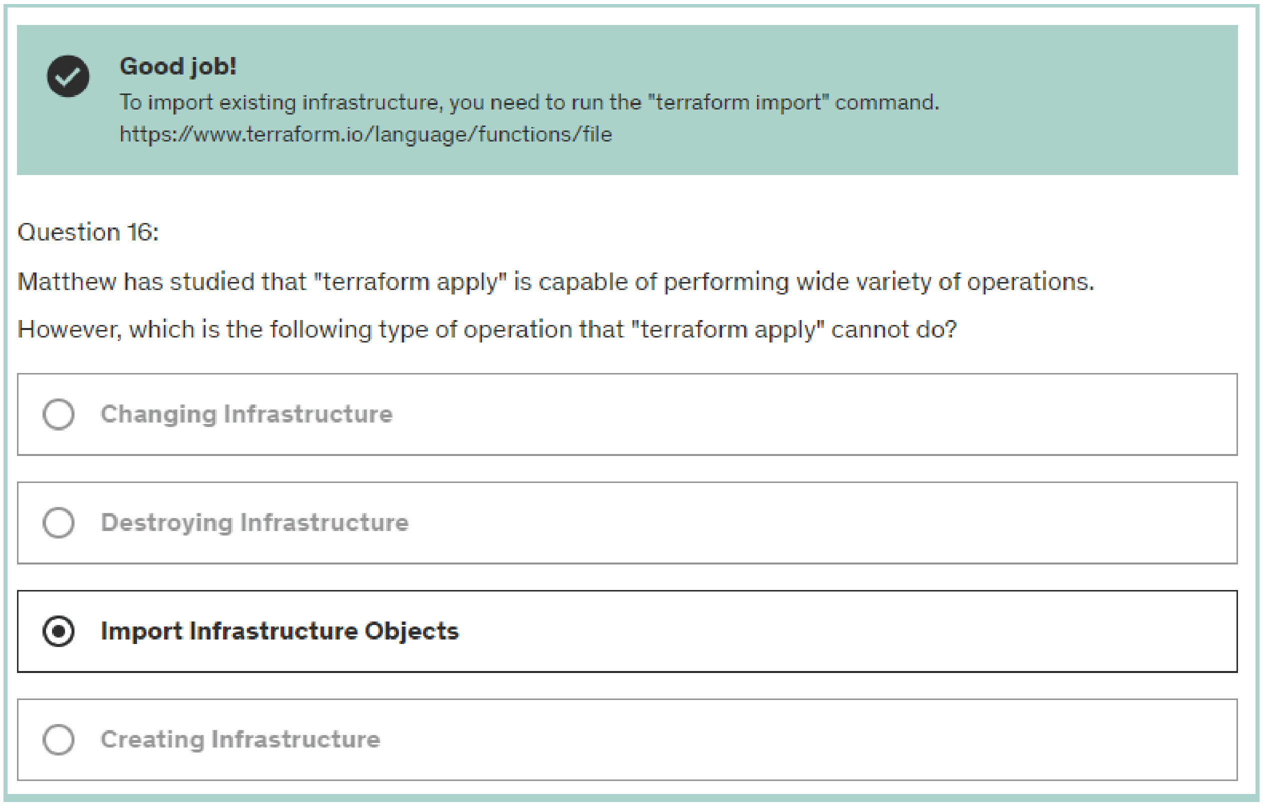
Which terraform function can be used to achieve this use-case?

○ string

● **file**

○ basename

○ unzip



Good job!
To import existing infrastructure, you need to run the "terraform import" command.
https://www.terraform.io/language/functions/file

Question 16:

Matthew has studied that "terraform apply" is capable of performing wide variety of operations.

However, which is the following type of operation that "terraform apply" cannot do?

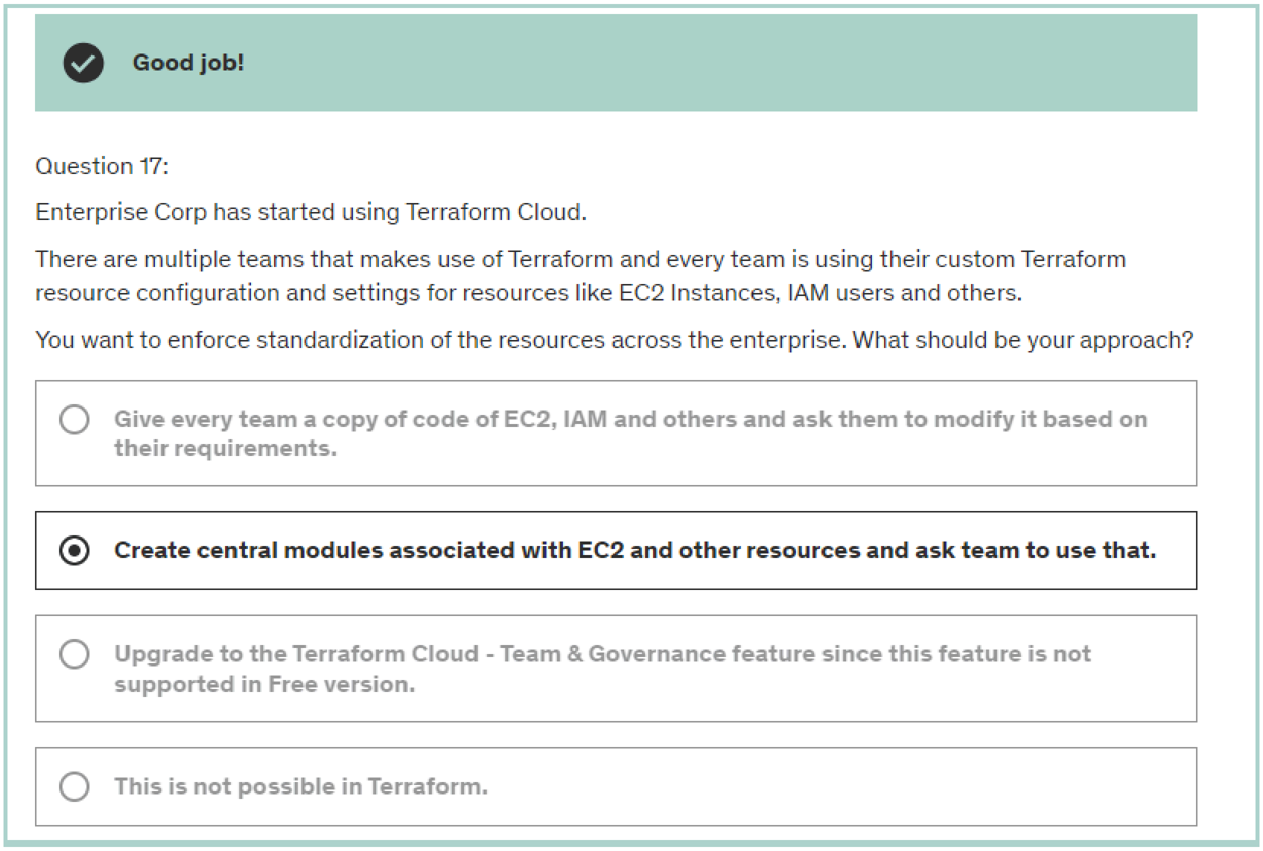
○ Changing Infrastructure

○ Destroying Infrastructure

● **Import Infrastructure Objects**

○ Creating Infrastructure

https://www.terraform.io/language/functions/file



✓ **Good job!**

Question 17:

Enterprise Corp has started using Terraform Cloud.

There are multiple teams that makes use of Terraform and every team is using their custom Terraform resource configuration and settings for resources like EC2 Instances, IAM users and others.

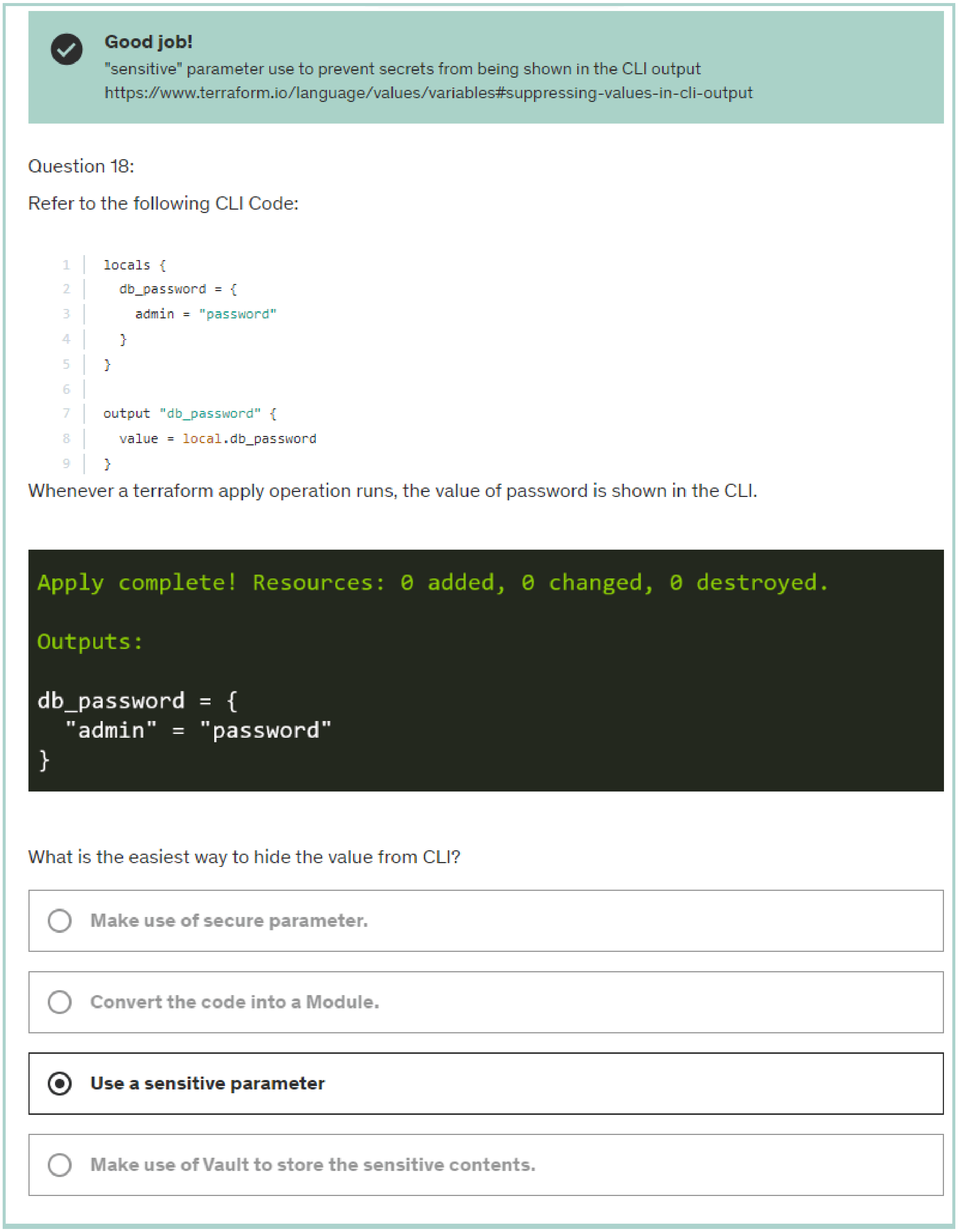
You want to enforce standardization of the resources across the enterprise. What should be your approach?

○ Give every team a copy of code of EC2, IAM and others and ask them to modify it based on their requirements.

● **Create central modules associated with EC2 and other resources and ask team to use that.**

○ Upgrade to the Terraform Cloud - Team & Governance feature since this feature is not supported in Free version.

○ This is not possible in Terraform.



✓ **Good job!**

"sensitive" parameter use to prevent secrets from being shown in the CLI output

https://www.terraform.io/language/values/variables#suppressing-values-in-cli-output

Question 18:

Refer to the following CLI Code:

```
locals {
  db_password = {
    admin = "password"
  }
}

output "db_password" {
  value = local.db_password
}
```

Whenever a terraform apply operation runs, the value of password is shown in the CLI.

```
Apply complete! Resources: 0 added, 0 changed, 0 destroyed.

Outputs:

db_password = {
  "admin" = "password"
}
```

What is the easiest way to hide the value from CLI?

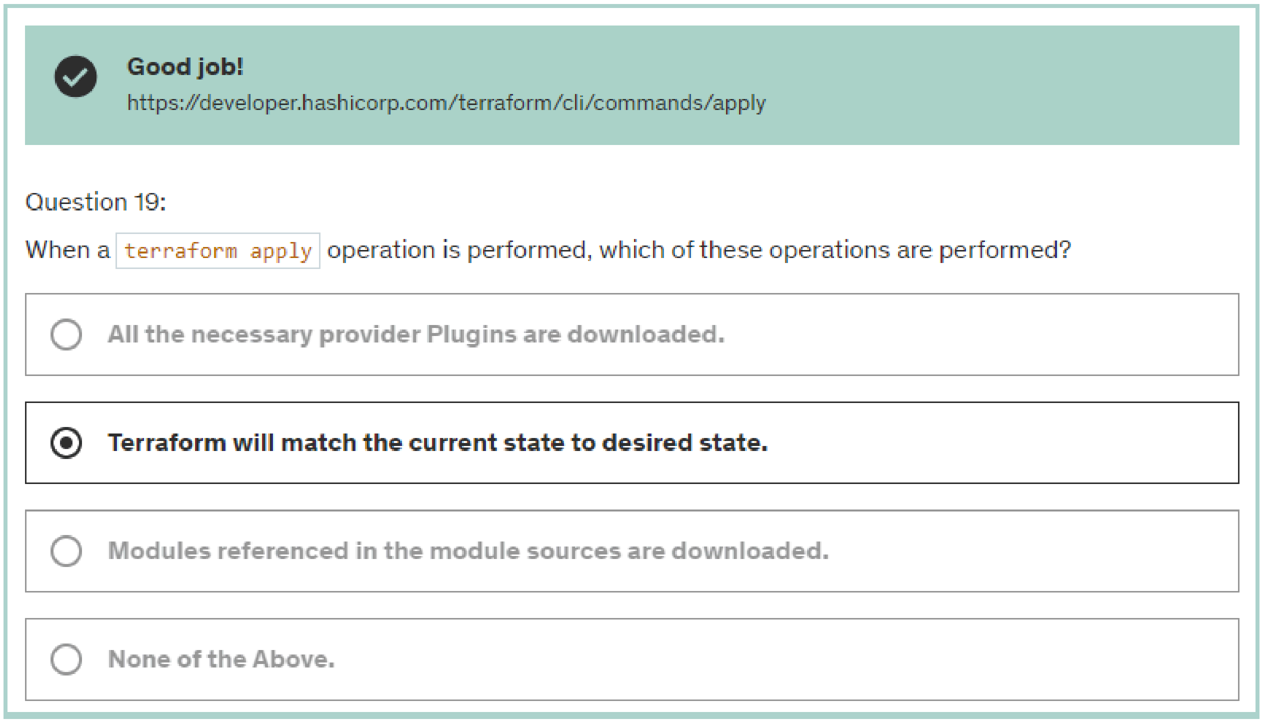
○ Make use of secure parameter.

○ Convert the code into a Module.

● **Use a sensitive parameter**

○ Make use of Vault to store the sensitive contents.

https://www.terraform.io/language/values/variables#suppressing-values-in-cli-output



✓ **Good job!**

https://developer.hashicorp.com/terraform/cli/commands/apply

Question 19:

When a `terraform apply` operation is performed, which of these operations are performed?

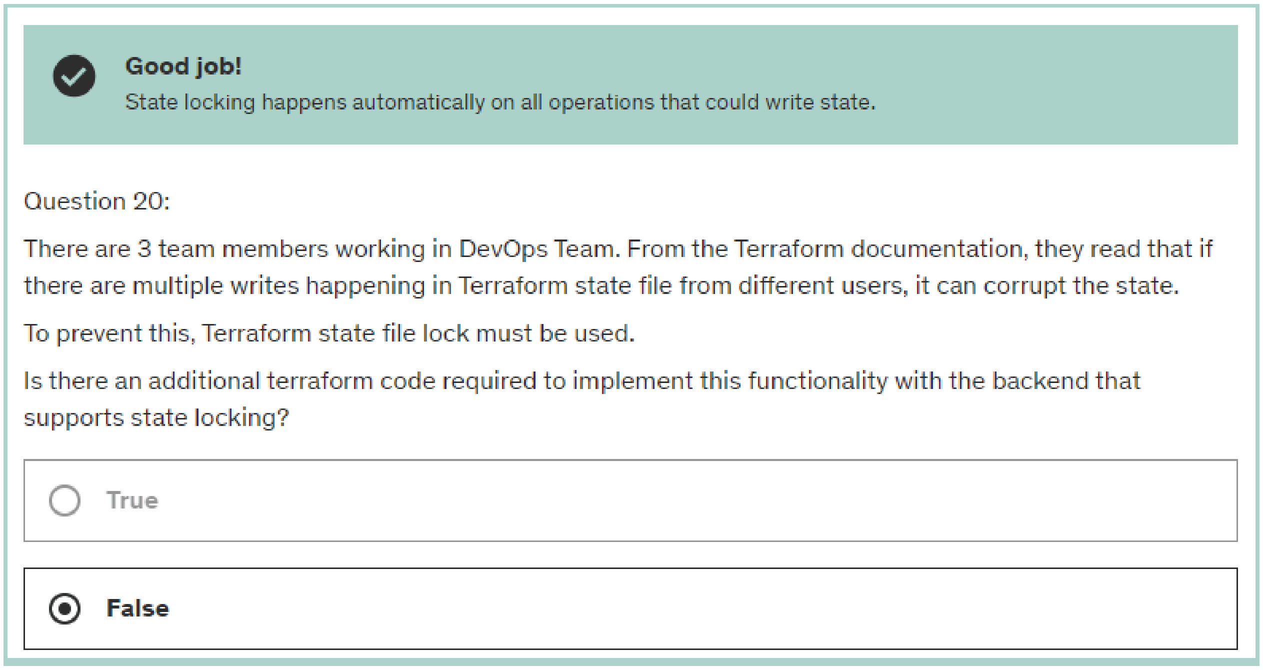
○ All the necessary provider Plugins are downloaded.

● **Terraform will match the current state to desired state.**

○ Modules referenced in the module sources are downloaded.

○ None of the Above.

https://developer.hashicorp.com/terraform/cli/commands/apply



✓ **Good job!**

State locking happens automatically on all operations that could write state.

Question 20:

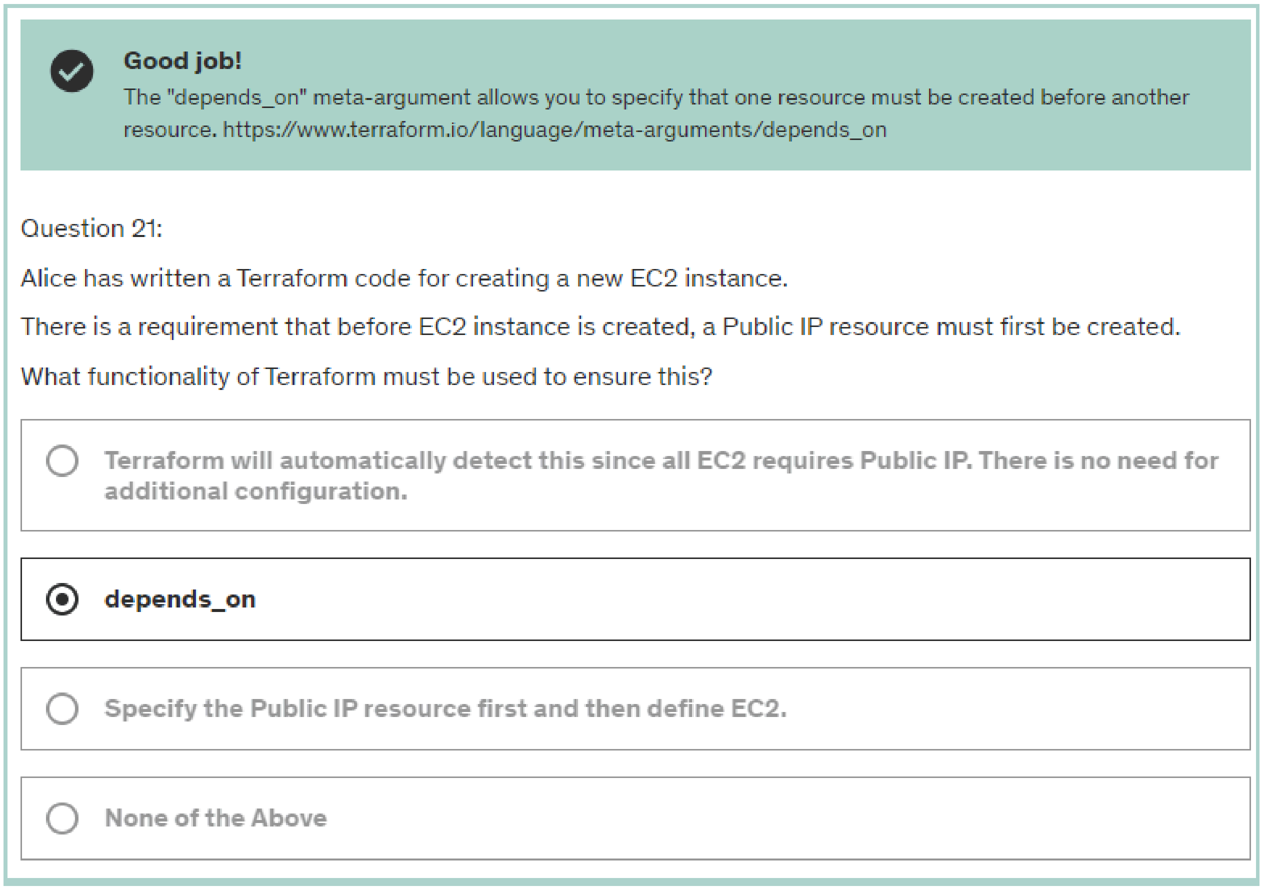
There are 3 team members working in DevOps Team. From the Terraform documentation, they read that if there are multiple writes happening in Terraform state file from different users, it can corrupt the state.

To prevent this, Terraform state file lock must be used.

Is there an additional terraform code required to implement this functionality with the backend that supports state locking?

○ True

● **False**



Good job!
The "depends_on" meta-argument allows you to specify that one resource must be created before another resource. https://www.terraform.io/language/meta-arguments/depends_on

Question 21:

Alice has written a Terraform code for creating a new EC2 instance.

There is a requirement that before EC2 instance is created, a Public IP resource must first be created.

What functionality of Terraform must be used to ensure this?

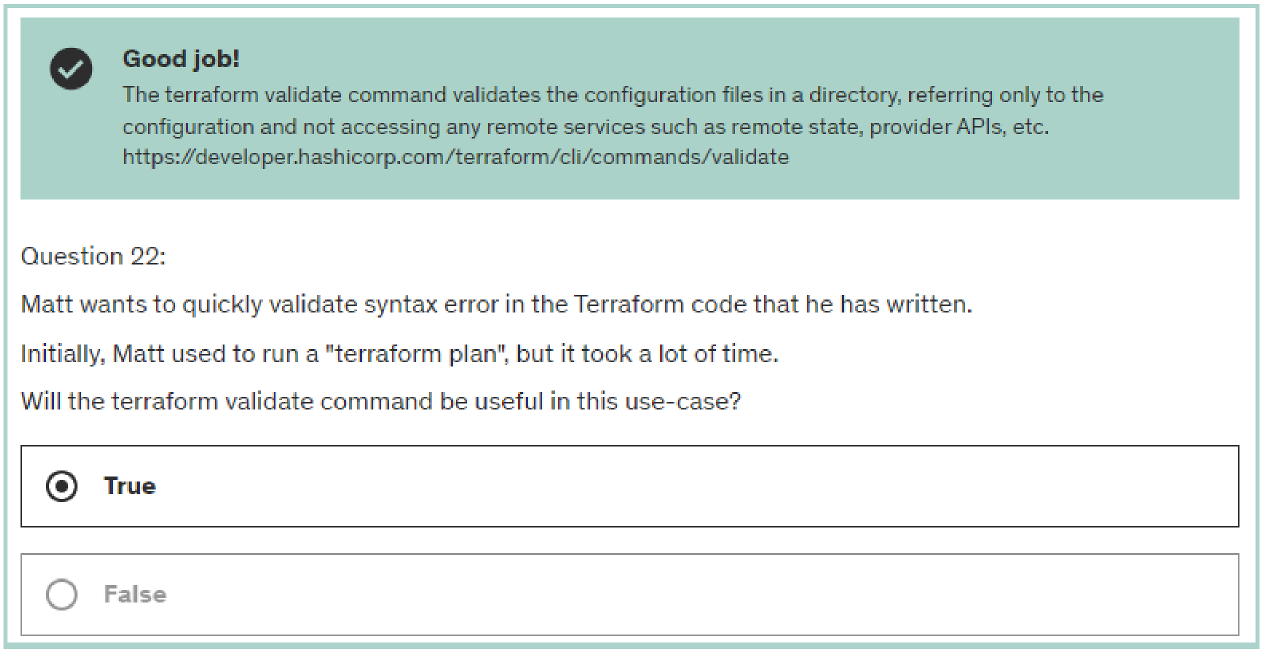
○ Terraform will automatically detect this since all EC2 requires Public IP. There is no need for additional configuration.

● **depends_on**

○ Specify the Public IP resource first and then define EC2.

○ None of the Above

https://www.terraform.io/language/meta-arguments/depends_on



Good job!
The terraform validate command validates the configuration files in a directory, referring only to the configuration and not accessing any remote services such as remote state, provider APIs, etc. https://developer.hashicorp.com/terraform/cli/commands/validate

Question 22:

Matt wants to quickly validate syntax error in the Terraform code that he has written.

Initially, Matt used to run a "terraform plan", but it took a lot of time.

Will the terraform validate command be useful in this use-case?

● **True**

○ False

https://developer.hashicorp.com/terraform/cli/commands/validate