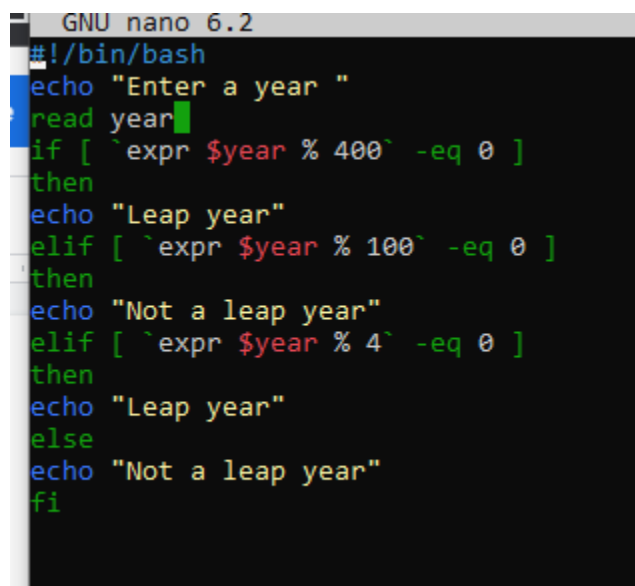**Q.1)**

```bash
#!/bin/bash
echo "Enter a year "
read year
if [ `expr $year % 400` -eq 0 ]
then
echo "Leap year"
elif [ `expr $year % 100` -eq 0 ]
then
echo "Not a leap year"
elif [ `expr $year % 4` -eq 0 ]
then
echo "Leap year"
else
echo "Not a leap year"
fi
```

```
tushar@DESKTOP-9QA5R03:~/exam$ bash year.sh
Enter a year
2020
Leap year
tushar@DESKTOP-9QA5R03:~/exam$ bash year.sh
Enter a year
2019
Not a leap year
tushar@DESKTOP-9QA5R03:~/exam$ bash year.sh
Enter a year
2000
Leap year
tushar@DESKTOP-9QA5R03:~/exam$ bash year.sh
Enter a year
1900
Not a leap year
```

Q.2)

```
#!/bin/bash
echo "Enter three number:"
read a b c
if [ $a -gt $b -a $a -gt $c ]
then
echo "$a is greatest"
elif [ $b -gt $c -a $b -gt $a ]
then
echo "$b is greatest"
else
echo "$c is greatest"
fi
```

```
  GNU nano 6.2
#!/bin/bash
echo "Enter three number:"
read a b c
if [ $a -gt $b -a $a -gt $c ]
then
echo "$a is greatest"
elif [ $b -gt $c -a $b -gt $a ]
then
echo "$b is greatest"
else
echo "$c is greatest"
fi
```

```
tushar@DESKTOP-9QA5R03:~/exam$ nano num.sh
tushar@DESKTOP-9QA5R03:~/exam$ bash num.sh
Enter three number:
10 20 30
30 is greatest
tushar@DESKTOP-9QA5R03:~/exam$ bash num.sh
Enter three number:
35 36 12
36 is greatest
tushar@DESKTOP-9QA5R03:~/exam$ bash num.sh
Enter three number:
11 9 10
11 is greatest
```

Q.3)

```
tushar@DESKTOP-9QA5R03:~$ sudo adduser user
[sudo] password for tushar:
Adding user `user' ...
Adding new group `user' (1023) ...
Adding new user `user' (1021) with group `user' ...
Creating home directory `/home/user' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for user
Enter the new value, or press ENTER for the default
        Full Name []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
tushar@DESKTOP-9QA5R03:~$
```

```
tushar@DESKTOP-9QA5R03:~$ sudo groupadd usergroup
tushar@DESKTOP-9QA5R03:~$ compgen -u
```

```
a1:x:1022:
user:x:1023:
usergroup:x:1024:
```

```
tushar@DESKTOP-9QA5R03:~$ sudo usermod -a -G usergroup user
tushar@DESKTOP-9QA5R03:~$
```

```
tushar@DESKTOP-9QA5R03:~$ su user
Password:
user@DESKTOP-9QA5R03:/home/tushar$ cd
user@DESKTOP-9QA5R03:~$ touch file.txt
user@DESKTOP-9QA5R03:~$ ls -l
total 0
-rw-rw-r-- 1 user user 0 Sep 26 17:33 file.txt
user@DESKTOP-9QA5R03:~$ chmod 400 file.txt
user@DESKTOP-9QA5R03:~$ ls -l
total 0
-r-------- 1 user user 0 Sep 26 17:33 file.txt
user@DESKTOP-9QA5R03:~$
```

Q.4)

```
user@DESKTOP-9QA5R03:~$ mkdir dbda
user@DESKTOP-9QA5R03:~$ touch Sep.txt
user@DESKTOP-9QA5R03:~$ ls
Sep.txt  dbda  file.txt
user@DESKTOP-9QA5R03:~$ mv Batch2.txt Sep.txt
mv: cannot stat 'Batch2.txt': No such file or directory
user@DESKTOP-9QA5R03:~$ mv Sep.txt Batch2.txt
user@DESKTOP-9QA5R03:~$ ls
Batch2.txt  dbda  file.txt
```
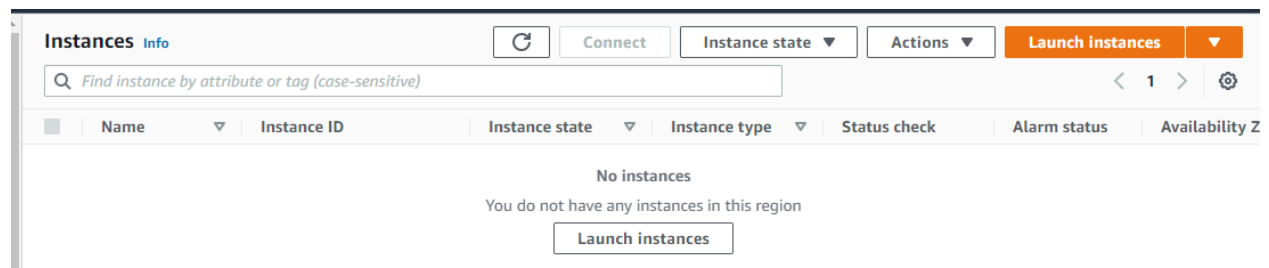
```
user@DESKTOP-9QA5R03:~$ mkdir dbda2
user@DESKTOP-9QA5R03:~$ tree
.
├── Batch2.txt
├── dbda
├── dbda2
└── file.txt

2 directories, 2 files
user@DESKTOP-9QA5R03:~$ mv Batch2.txt /home/user/dbda2
user@DESKTOP-9QA5R03:~$ tree
.
├── dbda
├── dbda2
│   └── Batch2.txt
└── file.txt

2 directories, 2 files
user@DESKTOP-9QA5R03:~$
```

Q.5)

	Name ▽	Instance ID	Instance state ▽	Instance type ▽	Status check	Alarm status	Availability Z

Instances Info   ⟳   Connect   Instance state ▼   Actions ▼   **Launch instances** ▼

Q Find instance by attribute or tag (case-sensitive)   ‹ 1 › ⚙

No instances
You do not have any instances in this region
Launch instances

Name

Linuxec2   Add additional tags

▼ **Application and OS Images (Amazon Machine Image)** Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

🔍 Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux	macOS	Ubuntu	Windows	Red Hat	S
aws	Mac	ubuntu®	Microsoft	Red Hat	

🔍
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Linux 2
ami-01216e76122

🎤 mute   📹 Stop Video   👥¹ Participants   💬 Chat   ⬆️ New Share   ⏸ Pause Share   ✏️ Annotate   Apps   ••• More

↰ You are screen sharing   🔇 ⏺ 🛡   ⏹ Stop Share

Key pair name

Linuxec2

The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

🔘 **RSA**
RSA encrypted private and public key pair

⚪ **ED25519**
ED25519 encrypted private and public key pair (Not supported for Windows instances)

Private key file format

🔘 **.pem**
For use with OpenSSH

⚪ **.ppk**
For use with PuTTY

Cancel   **Create key pair**

EC2 Management Console   Linux And Cloud Computing End

ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:

aws   Services   Search for services, features, blogs, docs, and more   [Alt+S]   Mumbai ▾   tushar ▾

☑ Allow SSH traffic from
Helps you connect to your instance

Anywhere
0.0.0.0/0

Unmute Stop Video Participants Chat New Share Pause Share Annotate Apps More

☑ Allow HTTPs traffic from the internet
To set up an endpoint, for example when creating a web server

☑ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

You are screen sharing   ■ Stop Share

Number of instances Info

1

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.   ✕

Talking:

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-01216e7612243e0ef

Virtual server type (instance type)
t2.micro

▼ **Configure storage** Info   Advanced

Firewall (security group)
New security group

1x   8   GiB   gp2   ▾   Root volume

Storage (volumes)
1 volume(s) - 8 GiB

ⓘ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage   ✕

Cancel   **Launch instance**

Feedback   Looking for language selection? Find it in the new Unified Settings   © 2022, Amazon Internet Services Private Ltd. or its affiliates.   Privacy   Terms   Cookie preferences

Linuxec2.pem   Show all   ✕

ENG   5:54 PM

EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-0f4a29661c30283c4)

▶ **Launch log**

PuTTY Key Generator   ?   ✕

File   Key   Conversions   Help

Key
Public key for pasting into OpenSSH authorized_keys file:

```
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQCvJxnWilKTVWMI6KdBhOW1ZW4xbwajbxqRgSav/C2mCviNhQLIZ
CzhK6wpstViGH8f8+cuMaLkz0imSMgXyRVLjTcNedTHBs/hKBcdl225TICFjqUmH3XooDftDHp0B7luIQiMVeAFv
Rwe7+lTeWZ+vM7k00vlFdOseHEtqLGRO5fVG/tUtvizk+Mi0uR6UblueJureb2Ugx6UupWzqAjOEbce9npB/X
+5B5K5bvOjlRvALqXD0K6tTjGuriJyH9AR/ripyf8AEP18HbrGdARdXVyVJIEYtJctYl9PSASFUUkVEyk4NWIyCokIK
```

Key fingerprint: ssh-rsa 2048 SHA256:SKtglJoRUiHbBbIKrav7u8jtid0JmeUZVnEz8UJ1DPA

Key comment: imported-openssh-key

Key passphrase:

Confirm passphrase:

Actions

Generate a public/private key pair   Generate

Load an existing private key file   Load

Save the generated key   Save public key   Save private key

Parameters
Type of key to generate:
◉ RSA   ○ DSA   ○ ECDSA   ○ EdDSA   ○ SSH-1 (RSA)

Number of bits in a generated key: 2048

PuTTY Configuration

Category:

- Keyboard
- Bell
- Features
- Window
  - Appearance
  - Behaviour
  - Translation
  - Selection
  - Colours
- Connection
  - Data
  - Proxy
  - SSH
    - Kex
    - Host keys
    - Cipher
    - Auth
    - TTY
    - X11
    - Tunnels
    - Bugs
    - More bugs

Options controlling SSH authentication

☑ Display pre-authentication banner (SSH-2 only)
☐ Bypass authentication entirely (SSH-2 only)
☐ Disconnect if authentication succeeds trivially

Authentication methods
☑ Attempt authentication using Pageant
☐ Attempt TIS or CryptoCard auth (SSH-1)
☑ Attempt "keyboard-interactive" auth (SSH-2)

Authentication parameters
☐ Allow agent forwarding
☐ Allow attempted changes of username in SSH-2
Private key file for authentication:
C:\Users\Dell\Downloads\abc.ppk   Browse...

About   Help   Open   Cancel

ec2-user@ip-172-31-41-221:~

Using username "ec2-user".
Authenticating with public key "imported-openssh-key"

```
       __|  __|_  )
       _|  (     /    Amazon Linux 2 AMI
      ___|\___|___|
```

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-41-221 ~]$

```
[ec2-user@ip-172-31-41-221 ~]$ yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
You need to be root to perform this command.
[ec2-user@ip-172-31-41-221 ~]$ sudo su
[root@ip-172-31-41-221 ec2-user]# yum update -y
```

```
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
t: disabled)
   Active: active (running) since Mon 2022-09-26 12:33:43 UTC; 50s ago
     Docs: man:httpd.service(8)
 Main PID: 3435 (httpd)
   Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes se
rved/sec:   0 B/sec"
   CGroup: /system.slice/httpd.service
           ├─3435 /usr/sbin/httpd -DFOREGROUND
           ├─3436 /usr/sbin/httpd -DFOREGROUND
           ├─3437 /usr/sbin/httpd -DFOREGROUND
           ├─3438 /usr/sbin/httpd -DFOREGROUND
           ├─3439 /usr/sbin/httpd -DFOREGROUND
           └─3440 /usr/sbin/httpd -DFOREGROUND

Sep 26 12:33:42 ip-172-31-41-221.ap-south-1.compute.internal systemd[1]: Star...
Sep 26 12:33:43 ip-172-31-41-221.ap-south-1.compute.internal systemd[1]: Star...
Hint: Some lines were ellipsized, use -l to show in full.
[root@ip-172-31-41-221 ec2-user]#
```

```
[root@ip-172-31-41-221 ec2-user]# cd /var/www/html
```

```
[root@ip-172-31-41-221 html]# nano index.html
[root@ip-172-31-41-221 html]# cat index.html
Hello linux from tushar

[root@ip-172-31-41-221 html]#
```

| 🗀 EC2 Management Console | × | 🌐 3.109.60.224 | × |

← → C ⚠ Not secure | 3.109.60.224

Hello linux from tushar

Q.6)

Create a bucket

Every object in S3 is stored in a bucket
create a bucket where the objects will

Create bucket

Create bucket Info

Buckets are containers for data stored in S3. Learn more

General configuration

Bucket name

tushar

Bucket name must be globally unique and must not contain spaces or uppercase letters. See rules for bucket naming

AWS Region

Asia Pacific (Mumbai) ap-south-1

Copy settings from existing bucket - *optional*
Only the bucket settings in the following configuration are copied.

Choose bucket

Object Ownership Info

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

ACLs disabled (recommended)
All objects in this bucket are owned by this account.
Access to this bucket and its objects is specified using only policies.

ACLs enabled
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

Object Ownership

Buckets (1) Info

Buckets are containers for data stored in S3. Learn more

Copy ARN | Empty | Delete | **Create bucket**

Find buckets by name

Name	AWS Region	Access	Creation date
tushar99	Asia Pacific (Mumbai) ap-south-1	Objects can be public	September 26, 2022, 17:44:29 (UTC+05:30)

Objects (0)

Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory ↗ to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more ↗

| | C | ⧉ Copy S3 URI | ⧉ Copy URL | ⤓ Download | Open ↗ | Delete | Actions ▼ | Create folder | ⤒ Upload |

| 🔍 Find objects by prefix | ‹ 1 › ⚙ |

| ☐ | Name ▲ | Type ▽ | Last modified ▽ | Size ▽ | Storage class ▽ |

No objects

You don't have any objects in this bucket.

⤒ Upload

Drag and drop files and folders you want to upload here, or choose **Add files**, or **Add folders**.

Files and folders (0)

Remove   Add files   Add folder

All files and folders in this table will be uploaded.

| 🔍 Find by name | ‹ 1 › |

| ☐ | Name ▲ | Folder ▽ | Type ▽ | Size ▽ |

Upload: status

ⓘ The information below will no longer be available

Summary

Destination
s3://tushar99

Files and folders | Configuration

Files and folders (1 Total, 12.0 B)

🔍 Find by name

Name ▲	Folder
abc.txt.txt	-

Objects (1)

Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory ↗ to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more ↗

| | Copy S3 URI | Copy URL | Download | Open | Delete | Actions ▲ | Create folder | Upload |

Q Find objects by prefix

	Name ▲	Type ▽	Last modified				rage class ▽
☑	🗎 abc.txt.txt	txt	September 26, 2022, 17:48:11 (UTC+05:30)				ndard

Actions menu:
- Initiate restore
- Query with S3 Select
- Edit actions
  - Rename object
  - Edit storage class
  - Edit server-side encryption
  - Edit metadata
  - Edit tags
- Make public using ACL

Zoom toolbar: Chat | New Share | Pause Share | Annotate | Apps | More

You are screen sharing | Stop Share

Object URL

https://tushar99.s3.ap-south-1.amazonaws.com/abc.txt.txt

← → C 🔒 tushar99.s3.ap-south-1.amazonaws.com/abc.txt.txt

```
Linuxx
File
```