Souvik Dhara

**Assignment 1**

1.Write the steps “using git how to push file in Bitbucket/Gitlab/Github”?

* you need to initialize a Git repository in the directory where the file you want to push is located.

git init

* you need to add the file to the Git repository.

git add .

* After adding the file, you need to commit the changes.

git commit -m “commit message”

* you need to set the remote repository. If you haven't already done so, you need to create a repository on Bitbucket/GitLab/Github and copy the repository URL.

git remote add origin <repository url>

* Finally, you can push the changes to the remote repository

git push -u origin master

2.Write a C program to sort the elements of Array (Data Structure)?

#include <stdio.h>

void main (){

int num[20];

int i, j, a, n;

printf("enter number of elements in an array");

scanf("%d", &n);

printf("Enter the elements");

for (i = 0; i < n; ++i)

scanf("%d", &num[i]);

for (i = 0; i < n; ++i){

for (j = i + 1; j < n; ++j){

if (num[i] > num[j]){

a = num[i];

num[i] = num[j];

num[j] = a;

} } }

printf("The numbers in ascending order is:");

for (i = 0; i < n; ++i){

printf("%d", num[i]);

}

}

3.Explain Waterfall model, Agile model and Devops in brief.

Waterfall Model:

The Waterfall model is a linear, sequential approach to software development. It is a well-defined and structured model where each phase of the development process must be completed before moving onto the next phase. The model consists of the following phases: requirements gathering, design, implementation, testing, deployment, and maintenance. The Waterfall model is best suited for projects where requirements are well-defined and unlikely to change during the development process.

Agile Model:

The Agile model is an iterative and incremental approach to software development. It emphasizes collaboration, flexibility, and customer satisfaction. The Agile model consists of short development cycles called sprints. Each sprint involves planning, design, implementation, testing, and review. The Agile model is best suited for projects where requirements are likely to change during the development process, and where flexibility is required to adapt to these changes.

DevOps:

DevOps is a culture, methodology, and set of practices that emphasizes collaboration and communication between software development and operations teams. It involves automating the entire software delivery process, from code development to deployment and maintenance. DevOps aims to shorten the development lifecycle, increase deployment frequency, and ensure reliable and stable software releases. DevOps involves using tools like continuous integration, continuous delivery, and monitoring to achieve these goals.

4.What is Operating System? List 20 Linux os commands.

An operating system (OS) is a software that manages computer hardware and software resources, and provides common services for computer programs. It acts as a mediator between the hardware and the software, providing a layer of abstraction to enable easy development and efficient use of computer resources. Some popular examples of operating systems include Windows, macOS, and Linux.

20 commonly used Linux commands:

ls: list directory contents

cd: change directory

pwd: print working directory

mkdir: make directory

rmdir: remove directory

touch: create a file

rm: remove a file

cat: concatenate files and print on the standard output

echo: display a line of text

cp: copy files and directories

mv: move or rename files and directories

chmod: change file permissions

chown: change file ownership

ps: display process status

kill: terminate a process

top: display system resource usage

grep: search for a pattern in a file

tar: create or extract tar archives

find: search for files in a directory hierarchy

ssh: secure shell, used to remotely access and manage a computer or server.

5. What is Shell Script? Write program for

1.Hello World 2. Variables 3. Operators 4. Control Statement 5. Function

Shell script is a computer program that is written in a shell programming language to automate tasks in a Unix-like operating system. Shell scripts are typically used to perform administrative tasks, run commands, and execute programs. Here are some examples of shell scripts:

Hello World Shell Script:

#!/bin/bash

#Hello world shell script

echo "Hello World"

Variables Shell Script:

#!/bin/bash

#Variable in shell script

name="John"

age=30

echo "My name is $name and I am $age years old"

Operators Shell Script:

#!/bin/bash

#Operator in shell script

a=10

b=5

sum=$((a + b))

echo "The sum of $a and $b is $sum"

Control Statement Shell Script:

#!/bin/bash

#Control Statement in Shell Script

a=10

if [ $a -gt 5 ]; then

echo "a is greater than 5"

else

echo "a is less than or equal to 5"

fi

Function Shell Script:

#!/bin/bash

#Function in Shell Script

function say\_hello {

echo "Hello World"

}

say\_hello

9.Write names of 15 devops tools?