Assignment – 2

1. Write a shell script to print the addition of two numbers.

echo -n "Enter 1st Number : "

read n1

echo -n "Enter 2nd Number : "

read n2

echo "Sum : $((n1+n2))"

Output :-

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$ bash pr\_1.sh

Enter 1st Number : 6

Enter 2nd Number : 9

Sum : 15

2. Print a given number in reverse order.

echo -n "Enter Number : "

read n

rev=0

while [ $n -ne 0 ]

do

    rev=$((rev\*10+n%10))

    n=$((n/10))

done

echo "Reverse : $rev"

Output :-

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$ bash pr\_2.sh

Enter Number : 528

Reverse : 825

3. Read 'n' from the user and print the Fibonacci sequence until 'n'.

echo -n "Enter Number : "

read n

a=0

b=1

c=$((a+b))

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

do

    echo "$a"

    a=$((b))

    b=$((c))

    c=$((a+b))

done

Output :-

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$ bash pr\_3.sh

Enter Number : 7

0

1

1

2

3

5

8

4. Say "Hello to a user and greet them based on the time of the day (Good Morning / Eve etc.)

echo "Hello User...!"

hr=$(date +"%H")

if [ "$hr" -lt 12 ]; then

    echo "Good Morning"

elif [ "$hr" -lt 17 ]; then

    echo "Good Afternoon"

elif [ "$hr" -lt 19 ]; then

    echo "Good Evening"

else

    echo "Good Night"

fi

Output :-

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$ bash pr\_4.sh

Hello User...!

Good Morning

5. Write a script for printing all file related information in present working directory (size,

permissions etc.)

echo "Details : "

ls -lh

Output :-

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$ bash pr\_5.sh

Details :

total 15K

-rw-r--r-- 1 Khushi 197121 120 Jan 20 11:37 pr\_1.sh

-rw-r--r-- 1 Khushi 197121 336 Jan 20 12:41 pr\_10.sh

-rw-r--r-- 1 Khushi 197121 98 Jan 20 12:46 pr\_11.sh

-rw-r--r-- 1 Khushi 197121 179 Jan 20 12:51 pr\_12.sh

-rwxr-xr-x 1 Khushi 197121 212 Jan 20 12:54 pr\_13.sh

-rw-r--r-- 1 Khushi 197121 297 Jan 20 13:00 pr\_14.sh

-rw-r--r-- 1 Khushi 197121 421 Jan 20 13:03 pr\_15.sh

-rw-r--r-- 1 Khushi 197121 146 Jan 26 13:50 pr\_2.sh

-rw-r--r-- 1 Khushi 197121 151 Jan 20 11:55 pr\_3.sh

-rw-r--r-- 1 Khushi 197121 254 Jan 20 12:00 pr\_4.sh

-rw-r--r-- 1 Khushi 197121 61 Jan 20 12:03 pr\_5.sh

-rw-r--r-- 1 Khushi 197121 152 Jan 20 12:13 pr\_6.sh

-rw-r--r-- 1 Khushi 197121 365 Jan 20 12:23 pr\_7.sh

-rw-r--r-- 1 Khushi 197121 317 Jan 20 12:31 pr\_8.sh

-rw-r--r-- 1 Khushi 197121 94 Jan 20 12:35 pr\_9.sh

6. Print the length of each and every string using arrays.

echo -n "Enter a Sentence : "

read str

words=($str)

for word in "${words[@]}";

do

    echo "$word : ${#word}"

done

Output :-

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$ bash pr\_6.sh

Enter a Sentence : Tahiti a magical place

Tahiti : 6

a : 1

magical : 7

place : 5

7. Display the longest and the shortest usernames on a system.

usernames=($(wmic useraccount get name | awk 'NR>1 {print $1}'))

long=${usernames[0]}

short=${usernames[0]}

for user in ${usernames[@]};

do

    if [ ${#user} -gt ${#long} ]; then

        long=$user

    fi

    if [ ${#user} -lt ${#short} ]; then

        short=$user

    fi

done

echo "Longest : $long"

echo "Shortest : $short"

Output :-

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$ bash pr\_7.sh

Longest : WDAGUtilityAccount

Shortest : Guest

8. Generate five random 8 character passwords having alpha-numeric characters.

characters="abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789"

for((i=1; i<=5; i++))

do

    password=""

    for((j=1; j<=8; j++))

    do

        random=${characters:RANDOM%${#characters}:1}

        password+=$random

    done

    echo "Password $i : $password"

done

Output :-

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$ bash pr\_8.sh

Password 1 : 6t8LssiP

Password 2 : HCSOf4jc

Password 3 : WL9OxfYs

Password 4 : niyd7eCA

Password 5 : sIddapi4

9. Display the names of all file systems which have less than 10% free space available.

df -h | awk '$5+0 >= 90 {print $1, $6}'

Output :-

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$ bash pr\_9.sh

C:/Program 51%

10. Write a script to search whether a user exists on the system or not.

echo -n "Enter Username : "

read user

usernames=($(wmic useraccount get name | awk 'NR>1 {print $1}'))

flag=0

for username in ${usernames[@]};

do

    if [ "$user" == "$username" ]; then

        echo "User Exists"

        flag=1

        break

    fi

done

if [ $flag -eq 0 ]; then

    echo "User does not exist"

fi

Output :-

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$ bash pr\_10.sh

Enter Username : Administrator

User Exists

11. Display the current date in words.

current\_date=$(date +"%A, %d %B, %Y")

echo "Current Date : $current\_date"

Output :-

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$ bash pr\_11.sh

Current Date : Monday, 27 January, 2025

12. Display the current active time of a user that has been logged in.

logged\_in\_user=$(whoami)

login\_time=$(cmd.exe /c "query user $logged\_in\_user" | sed -n '2p' | awk '{print $3, $4}')

echo "You logged in at: $login\_time"

13. Print the total number of lines in a C program.

echo -n "Enter the file name: "

read filename

if [ ! -f "$filename" ]; then

    echo "File not found!"

    exit 1

fi

line\_count=$(wc -l < "$filename")

echo "Total lines in $filename: $line\_count"

Output :-

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$ bash pr\_13.sh

Enter the file name: D:/DAA/DFS.cpp

Total lines in D:/DAA/DFS.cpp: 45

14. Find whether a C file contains the printf() method or not.

echo -n "Enter the C program file name: "

read file

if [ ! -f "$file" ]; then

    echo "File not found!"

    exit 1

fi

if grep -q "printf(" "$file"; then

    echo "The program contains the printf() method."

else

    echo "The program does not contain the printf() method."

fi

Output :-

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$ bash pr\_14.sh

Enter the C program file name: D:/DAA/DFS.cpp

The program contains the printf() method.

15. Find whether a C program uses void main() or int main().

echo -n "Enter the C program file name: "

read filename

if [ ! -f "$filename" ]; then

    echo "File not found!"

    exit 1

fi

if grep -q "void main()" "$filename"; then

    echo "The program uses void main()."

elif grep -q "int main()" "$filename"; then

    echo "The program uses int main()."

else

    echo "The program does not contain main() method or it has a different signature."

fi

Output :-

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$ bash pr\_15.sh

Enter the C program file name: D:/DAA/DFS.cpp

The program uses int main().