**1.**

#!bin/bash

# 1. Write a shell script to find the factorial value of any integer entered through the keyboard.

echo "Enter an integer: "

read num

fact=1

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

do

fact=$((fact\*i))

done

echo "Factorial of $num is $fact."

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OUTPUT -

$ sh q1.sh

Enter an integer:

6

Factorial of 6 is 720.

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**2.**

#!/bin/bash

# 2. Write a shell script to generate all combinations of 1, 2 and 3.

for i in 1 2 3

do

for j in 1 2 3

do

for k in 1 2 3

do

echo "$i$j$k"

done

done

done

<<com

OUTPUT -

$ sh q2.sh

111

112

113

121

122

123

131

132

133

211

212

213

221

222

223

231

232

233

311

312

313

321

322

323

331

332

333

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**3.**

#!/bin/bash

# 3. Write a shell script to print all prime numbers in a given range.

echo "Enter the range: "

read l

read u

echo "Prime numbers in the given range are "

for ((i=l; i<=u; i++ ))

do

is\_prime=true

for ((j=2; j<=i/2; j++ ))

do

if [ $((i%j)) -eq 0 ]

then

is\_prime=false

break

fi

done

if [ $is\_prime = true ]

then

echo $i

fi

done

<<com

OUTPUT -

$ bash q3.sh

Enter the range:

10

30

Prime numbers in the given range are

11

13

17

19

23

29

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**4.**

#!/bin/bash

# 4. Write a shell script to calculate the sum of digits of any number entered through keyboard.

echo "Enter a number: "

read num

sum=0

while [ $num -gt 0 ]

do

digit=$((num%10))

sum=$((sum+digit))

num=$((num/10))

done

echo "Sum of the digits: $sum"

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OUTPUT -

$ sh q4.sh

Enter a number:

100

Sum of the digits: 1

com

**5.**

#!/bin/bash

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5. Rajesh‟s basic salary (BASIC) is input through the keyboard. His dearness allowance (DA) is 52% of

BASIC. House rent allowance (HRA) is 15% of BASIC. Contributory provident fund is 12% of

(BASIC + DA). Write a shell script to calculate his gross salary and take home salary using the

following formula:

Gross salary = BASIC + DA + HRA

Take home salary = Gross salary - (BASIC + DA) \* 0.12

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echo "Enter Rajesh's basic salary: "

read basic\_salary

da=$(echo "scale=2; $basic\_salary \* 0.52" | bc)

hra=$(echo "scale=2; $basic\_salary \* 0.15" | bc)

pf=$(echo "scale=2; ($basic\_salary + $da) \* 0.12" | bc)

gross\_salary=$(echo "scale=2; $basic\_salary + $da + $hra" | bc)

take\_home\_salary=$(echo "scale=2; $gross\_salary - ($basic\_salary + $da) \* 0.12" | bc)

echo "Rajesh's gross salary is ₹ $gross\_salary"

echo "Rajesh's take-home salary is ₹ $take\_home\_salary"

<<com

OUTPUT -

$ sh q5.sh

Enter Rajesh's basic salary:

50000

Rajesh's gross salary is ₹ 83500.00

Rajesh's take-home salary is ₹ 74380.00

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**6.**

#!/bin/bash

# 6. Develop a shell script which displays all files with all attributes those have been created or modified in the month of November.

echo "-------------------------------------"

echo "Files Modified or created in November:"

echo "-------------------------------------"

find . -type f -newermt "nov 1" ! -newermt "dec 1" -ls

<<com

OUTPUT -

$ sh q6.sh

-------------------------------------

Files Modified or created in November:

-------------------------------------

2023 4 -rw-r--r-- 1 user user 1234 Nov 10 12:34 ./test1.txt

2023 8 -rw-r--r-- 1 user user 5678 Nov 20 09:12 ./test2.txt

2023 4 -rw-r--r-- 1 user user 4321 Nov 27 15:42 ./test3.txt

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