PART C

Question 1: Write a shell script that prints "Hello, World!" to the terminal.

```
cdac@Bhagyashri:~/ASS2$ echo "Hello,World"
Hello,World
cdac@Bhagyashri:~/ASS2$
```

Question 2: Declare a variable named "name" and assign the value "CDAC Mumbai" to it. Print the value of the variable.

```
cdac@Bhagyashri:~/ASS2$ name="CDAC Mumbai"
cdac@Bhagyashri:~/ASS2$ echo $name
CDAC Mumbai
cdac@Bhagyashri:~/ASS2$ echo "$name"
CDAC Mumbai
cdac@Bhagyashri:~/ASS2$
```

Question 3: Write a shell script that takes a number as input from the user and prints it.

```
cdac@Bhagyashri:~/ASS2$ read number
55
cdac@Bhagyashri:~/ASS2$ echo $number
55
cdac@Bhagyashri:~/ASS2$
```

Question 4: Write a shell script that performs addition of two numbers (e.g., 5 and 3) and prints the result.

```
#!/bin/bash

num1=5
num2=3

sum=$((num1 + num2))
echo "The sum of $num1 and $num2 is: $sum"
```

```
cdac@Bhagyashri:~/ASS2$ bash sh5.sh
The sum of 5 and 3 is: 8
cdac@Bhagyashri:~/ASS2$ nano sh5.sh
cdac@Bhagyashri:~/ASS2$
```

Question 5: Write a shell script that takes a number as input and prints "Even" if it is even, otherwise prints "Odd".

```
#!/bin/bash
read -p  "Enter a number: " number


if (( number % 2 != 0 )); then
    echo "ODD"
else
    echo "EVEN"
fi
```

```
cdac@Bhagyashri:~/ASS2$ bash sh5.sh
Enter a number: 7
ODD
cdac@Bhagyashri:~/ASS2$
```

Question 6: Write a shell script that uses a for loop to print numbers from 1 to 5.

```
#!/bin/bash

for i in 1 2 3 4 5;
 do
    echo $i
 done
```

```
cdac@Bhagyashri:~/ASS2$ bash sh6.sh
1
2
3
4
5
```

Question 7: Write a shell script that uses a while loop to print numbers from 1 to 5.

```
#!/bin/bash

i=1
while [ $i -le 5 ]
do
    echo $i
    i=$((i + 1))
done
```

```
cdac@Bhagyashri:~/ASS2$ bash sh7.sh
1
2
3
4
5
cdac@Bhagyashri:~/ASS2$
```

Question 8: Write a shell script that checks if a file named "file.txt" exists in the current directory. If it does, print "File exists", otherwise, print "File does not exist"

```
#!/bin/bash

if [ -e "file.txt" ]; then
    echo "File exists"
else
    echo "File does not exist"
fi
```

```
cdac@Bhagyashri:~/ASS2$ nano sh8.sh
cdac@Bhagyashri:~/ASS2$ bash sh8.sh
File does not exist
cdac@Bhagyashri:~/ASS2$
```

Question 9: Write a shell script that uses the if statement to check if a number is greater than 10 and prints a message accordingly.

```
#!/bin/bash

read -p "Enter a number: " number
if [ $number -gt 10 ]; then
    echo "The number is greater than 10"
else
    echo "The number is not greater than 10"
fi
```

```
cdac@Bhagyashri:~/ASS2$ bash sh9.sh
Enter a number: 5
The number is not greater than 10
cdac@Bhagyashri:~/ASS2$ bash sh9.sh
Enter a number: 11
The number is greater than 10
cdac@Bhagyashri:~/ASS2$
```

Question 10: Write a shell script that uses nested for loops to print a multiplication table for numbers from 1 to 5. The output should be formatted nicely, with each row representing a number and each column representing the multiplication result for that number.

```
#!/bin/bash

max=5
echo -n "    "
for i in $(seq 1 $max); do
    printf "%4d" $i
done
echo


for i in $(seq 1 $max); do
    printf "%2d " $i

    for j in $(seq 1 $max); do
        printf "%4d" $((i * j))
    done
    echo
done
```

```
cdac@Bhagyashri:~/ASS2$ bash sh10.sh
       1   2   3   4   5
 1     1   2   3   4   5
 2     2   4   6   8  10
 3     3   6   9  12  15
 4     4   8  12  16  20
 5     5  10  15  20  25
```

Question 11: Write a shell script that uses a while loop to read numbers from the user until the user enters a negative number. For each positive number entered, print its square. Use the break statement to exit the loop when a negative number is entered.

```
#!/bin/bash

while true; do

    read -p "Enter a number (negative to quit): " number
    if [ $number -lt 0 ]; then
        echo "Exiting."
        break
    fi
    echo "The square of $number is: $((number * number))"
done
```

```
cdac@Bhagyashri:~/ASS2$ bash sh11.sh
Enter a number (negative to quit): 2
The square of 2 is: 4
Enter a number (negative to quit): 3
The square of 3 is: 9
Enter a number (negative to quit): 4
The square of 4 is: 16
Enter a number (negative to quit): 5
The square of 5 is: 25
Enter a number (negative to quit): 6
The square of 6 is: 36
Enter a number (negative to quit): 7
The square of 7 is: 49
Enter a number (negative to quit): 8
The square of 8 is: 64
Enter a number (negative to quit): 9
The square of 9 is: 81
Enter a number (negative to quit): -2
Exiting.
cdac@Bhagyashri:~/ASS2$
```