Explain this following bash script:

#!/bin/bash

space\_free=$( df -h | awk '{ print $5 }' | sort -n | tail -n 1 | sed 's/%//' )

case $space\_free in

[1-5]\*)

echo Plenty of disk space available

;;

[6-7]\*)

echo There could be a problem in the near future

;;

8\*)

echo Maybe we should look at clearing out old files

;;

9\*)

echo We could have a serious problem on our hands soon

;;

\*)

echo Something is not quite right here

;;

Esac

**Here is the explanation of the code:**

#!/bin/bash

# The script starts with the shebang line indicating that it's a Bash script.

space\_free=$( df -h | awk '{ print $5 }' | sort -n | tail -n 1 | sed 's/%//' )

# This line uses a series of commands to calculate the percentage of free disk space.

# - df -h: Displays disk space usage in a human-readable format.

# - awk '{ print $5 }': Extracts the fifth column, which represents the percentage of space used.

# - sort -n: Sorts the percentages numerically.

# - tail -n 1: Retrieves the last line, which contains the highest percentage.

# - sed 's/%//': Removes the percentage sign from the value.

# The final result is stored in the variable "space\_free."

case $space\_free in

# A case statement is used to evaluate the value of "space\_free" and perform actions based on it.

[1-5]\*)

echo Plenty of disk space available

;;

# If the value of "space\_free" starts with 1-5 (i.e., between 10% and 50%),

# it prints the message "Plenty of disk space available."

[6-7]\*)

echo There could be a problem in the near future

;;

# If the value of "space\_free" starts with 6-7 (i.e., between 60% and 70%),

# it prints the message "There could be a problem in the near future."

8\*)

echo Maybe we should look at clearing out old files

;;

# If the value of "space\_free" starts with 8 (i.e., 80%),

# it prints the message "Maybe we should look at clearing out old files."

9\*)

echo We could have a serious problem on our hands soon

;;

# If the value of "space\_free" starts with 9 (i.e., 90%),

# it prints the message "We could have a serious problem on our hands soon."

\*)

echo Something is not quite right here

;;

# If none of the above patterns match, it prints the message "Something is not quite right here."

esac

# The "esac" keyword marks the end of the case statement.