* In your **own words**, explain the following:
  + Singly-linked list

*A singly linked list is a collection of data called nodes, where each node is divided into two parts to store data and address. Every node in a linked list is connected with the other through a pointer that points to the address of the next node.*

* + UNIX vs. Linux

*Linux*

* + - * *is open source and an alternative to the UNIX OS.*
      * *Developed collaboratively by a global community of developers.*
      * *Popular in server and supercomputing environments.*

*UNIX*

* + - * *A propriety operating system that sets standards for OS development.*
      * *Licensed for use by various vendors.*
      * *Recognized for stability and is often used in high-end critical servers and mainframe computers.*

*Similarities*

* + - * *Both are designed based on the UNIX philosophy.*
      * *Both use the Bourne shell (SH) or Bourne Again Shell(BASH) for command line scripting and automation.*
      * *They share similar security models, with permissions divided into read, write, and execute.*
  + 192.168.0.0/24

*It’s a class C Ipv4 address utilizing CIDR notation, tailored for small networks, which accommodates a maximum of 254 hosts/ available IP addresses.*

* + Encryption

*The process of converting information or data into a code to prevent unauthorized access. It is used to protect sensitive data from begin accessed or tampered with by unauthorized individuals.*

* With the following code, answer the following:
  + What will be the output?

*The output is Number = 315. The explanation is the bash code will print the smallest positive integer that is less than 10,000 and is divisible by 5, 7, and 9.*

* + If you remove line #26, what will be the output?

*If I remove the line #26 which is the break; the output is “Number =10000”/*

1 #!/bin/bash

2

3 MAX=10000

4

5 for((nr=1; nr<$MAX; nr++))

6 do

7

8 let "t1 = nr % 5"

9 if [ "$t1" -ne 0 ]

10 then

11 continue

12 fi

13

14 let "t2 = nr % 7"

15 if [ "$t2" -ne 0 ]

16 then

17 continue

18 fi

19

20 let "t3 = nr % 9"

21 if [ "$t3" -ne 0 ]

22 then

23 continue

24 fi

25

26 break

27

28 done

29

30 echo "Number = $nr"

31

32 exit 0