Year 10 Interleaved Homework 11

1. State one benefit of using compression on an audio file.

Lower the file size

2. Place the following data sizes in order from smallest (1) to largest (4):

Order (1-4)	
10MB	2
10GB	3
1TB	4
1000B	1

3. Complete the Python program that asks the user to enter three numbers and outputs the product and the sum of those numbers:

num1 = int(input("Enter Number 1:"))

num2 = int(input("Enter Number 2:"))

num3 = int(input("Enter number"))

theProduct = num1 * num2 * num3

theSum = num1 + num2 + num3

print(theProduct)

print(theSum)

4. Below is an algorithm that allows the user to enter a score and have it added until it reaches 100. Line numbers have been included but are not part of the program.

1 loop = True
2 while loop == True:
3   score = int(input("Please enter your score: ")
4   if score == 100:
5   print("You reached 100 score!")
6   Loop = False
7   else:
8   print("Not enough yet, your score is: ", score)

a. On which line does selection first appear?

4

b. What kind of iteration is found in this program?

Indefinite

c. There is a syntax error in this program, re-write the line correctly.

score = int(input("Please enter your score")) – close the bracket for int()

d. Rewrite the iteration to have the condition for "score == 100."

while not score == 100

5. Match the symbol with the meaning:

Symbol	Meaning
!=	Not Equal to
<	Less than
>=	More than or Equal to
==	Equal to
<=	Less than or Equal to
>	More than

6. State if the following snippets of Python code would return True or False:

Expression	True or False

10 > 15	False
len("plum") == 7-3	True
10*10 != 10**2	False
len("grape") <= len("strawberry")	True

7. Convert the denary number 243 into hexadecimal. Show all your working.

243 / 16 = 15.1875   0.1875*16 = 3   0xF3

8. Convert the hexadecimal number 97 into binary. Show all your working.

9 – 1001   7 – 0111   10010111

9. A local movie theatre charges £12 per person for a standard movie ticket. If a group books 10 or more tickets together, the theatre offers a £10 discount on the total booking.

Write a Python program to calculate the total cost for a group planning to watch a movie at this theatre.

The program should:
- Prompt the user to enter the number of people in the group.
- Calculate the total cost by:
  - o Charging £12 per person.

o   Applying a £10 discount on the total cost if the group size is 10 or more.
- Display the final total cost.

Ensure to apply proper indentation, use meaningful variable names, and adhere to Python syntax in your response.

```python
tickets = int(input("Enter number of tickets"))
total = tickets * 12
if tickets >= 10:
        total -= 10

print(total)
```