Computer Science Summer Homework

1. SYSTEM COMPONENT

Research using the internet, explain in detail what each listed component does in the computer. Remember to reference all sources used.

Component	Image	What does this component do?
CPU		
Hard Disk Drive		
Motherboard		
RAM		
Power supply		
Graphics card		

Research: -

1. Find out which components in the computer have fans and why they are required.

2. Find out the role of a **DATA BUS** within a computer

3. What is meant by open-source software? Give **THREE** examples of open-source software

2. DATA REPRESENTATION

128	64	32	16	8	4	2	1

Task 1: Convert the following **binary** numbers to decimal.

a. 00011100

128	64	32	16	8	4	2	1	**Decimal**

b. 11011101

128	64	32	16	8	4	2	1	**Decimal**

c. 11010101

128	64	32	16	8	4	2	1	**Decimal**

Task 2: Convert the following **decimal** numbers to binary.

a. 39

128	64	32	16	8	4	2	1

b. 102

128	64	32	16	8	4	2	1

c. 193

128	64	32	16	8	4	2	1

Task 3: Add the following binary numbers together.

a.

+	0	0	1	1	0	1	1	1
	0	1	0	0	1	1	1	1

b.

+	1	0	0	1	1	1	0	1
	0	1	0	1	1	1	1	0

c.

+	1	0	1	1	0	1	1	0
	1	0	1	1	1	0	0	1

Task 4: What is an overflow error?

Task 5: Convert the following decimal numbers to binary and then add them together.

a. 32 + 73

b. 129 + 82

3. Python Programming

Develop your coding skills by clicking on the links below. Ensure you complete the exercises at the end of each topic.

[Python Syntax](#)

[Python Comments](#)

[Python Variables](#)

[Python Data Types](#)

[Python Numbers](#)

[Python Conditions](#)