LEES BROOK COMMUNITY SCHOOL

GCSE

Computer Science

2020-2022

Please see a member of the Computing department for more information

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Qualification aims and objectives

The aims and objectives of this qualification are to enable students to:

- Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation
- Analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs
- Think creatively, innovatively, analytically, logically and critically
- Understand the components that make up digital systems, and how they communicate with one another and with other systems
- Understand the impacts of digital technology to the individual and to wider society
- Apply mathematical skills relevant to computer science.
- Understand how data is represented within a computer system
- Use relational databases and structured query language (SQL)
- Explain cyber security issues and how to reduce or avoid the effects

The course consists of 2 elements:

- 2 exams each worth 50%

```
CREATE STREAM CS_SEL1 AS
SELECT *
  FROM Customer_Stream
 WHERE Age > 25;

CREATE STREAM CS_OUT1 AS
SELECT *
  FROM CS_SEL1 [Rows 1536], Product_Streams [Rows 1536]
 WHERE Order ID = Product ID;

CREATE STREAM CS_SEL2 AS
SELECT *
  FROM CS_SEL1
 WHERE Gender = female;

CREATE STREAM CS_OUT2 AS
SELECT *
  FROM CS_SEL2 [Rows 2048], Product_Streams [Rows 2048]
 WHERE Order ID = Product ID;
```

Component 1: Computational thinking and programming skills (2hrs Written Exam)

A mix of multiple choice, short answer and longer answer questions assessing programming, practical problem-solving and computational thinking skills.

Component 2: Computing concepts (1 hr 45 min Written Exam)

A mix of multiple choice, short answer, longer answer and extended response questions assessing SQL programming skills and theoretical knowledge of; networks and systems, cyber security, ethical and moral issues and data representation.

PythonExample.py

```
# Program published on https://beginnersbook.com

# Python program to perform Addition Subtraction Multiplication
# and Division of two numbers

num1 = int(input("Enter First Number: "))
num2 = int(input("Enter Second Number: "))

print("Enter which operation would you like to perform?")
ch = input("Enter any of these char for specific operation +,-,*,/: ")

result = 0
if ch == '+':
    result = num1 + num2
elif ch == '-':
    result = num1 - num2
elif ch == '*':
    result = num1 * num2
elif ch == '/':
    result = num1 / num2
else:
    print("Input character is not recognized!")

print(num1, ch , num2, ":", result)

```