THE WREN

KINDNESS · AMBITION · RESPECT

GCSE COMPUTER SCIENCE

COMPUTER SCIENCE - GCSE

Why study GCSE Computer science

Creative

Logical thinker

Solving problems

Programming

Good in maths

What do you expect in the exam:

Lots of programming

Maths knowledge in action

Designing and developing programs

Written work to evaluate your solution

Case studies

Systems architecture	Data Representation
Systems software	...gal, cultural and environmental ...cerns

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NURTURE · CHALLENGE · INSPIRE

Future with computer science:

SAMPLE PAPER 1

	RAM	ROM
Stores the boot up sequence of the Sat Nav.		
The contents are lost when the Sat Nav is turned off.		
Holds copies of open maps and routes.		

2 Nina wants to transfer photos from a digital camera to an external secondary storage device.

(a) Define what is meant by 'secondary storage'.

.....

..... [1]

Exemplar 1

1 mark

Non-volatile storage that can permeanantly store data

A hospital stores patients' details on its computer network. The hospital is concerned about the security of its patients' details.

(a) Staff already use strong passwords to protect systems. Explain, with reference to system security, **three** other ways that the hospital could protect the network system.

1 .....

.....

.....

.....

2 .....

.....

People often want to buy the most up-to-date smartphones, even though the smartphone they own still works.

Discuss the impact of people wanting to upgrade to the latest smartphone.

In your answer, you might consider the impact on:

- smartphone users
- cultural issues
- ethical issues
- environmental issues.

[6]

.....

.....

.....

8

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SOFTWARE – PAPER 2

Lesson 1 - Print & input	14/10/2024 13:58	File folder
Lesson 2 - Data types	15/10/2024 12:32	File folder
Lesson 3 - Arithmetic operators	08/11/2024 12:56	File folder
Lesson 4 - If statement part 1	19/11/2024 14:58	File folder
Lesson 5 - If statement part 2	19/11/2024 14:58	File folder
Lesson 6 - If statement part 3	21/11/2024 15:00	File folder
Lesson 7 - End of unit assessment	24/07/2024 10:01	File folder
Lesson 8 - String manipulation	21/11/2024 14:53	File folder
Lesson 9 - For loop part 1	21/11/2024 15:00	File folder
Lesson 10 - For loop part 2	18/11/2024 12:28	File folder
Lesson 11 - While loop part 1	13/11/2024 13:21	File folder
Lesson 12 - While loop part 2	15/10/2024 14:04	File folder
Lesson 13 - While loop part 3	16/10/2024 11:36	File folder
Lesson 14 - End of unit assessment	30/11/2023 14:48	File folder
Lesson 15 - Random numbers	14/11/2024 14:01	File folder
Lesson 16 - Arrays part 1	14/11/2024 14:01	File folder
Lesson 17 - Arrays part 2	06/11/2024 17:03	File folder
Lesson 18 - Arrays part 3	17/10/2024 13:58	File folder
Lesson 19 - 2D arrays	30/11/2023 13:13	File folder
Lesson 20 - Revision	19/12/2023 15:10	File folder
Lesson 21 - File handling part 1	18/10/2024 15:00	File folder
Lesson 22 - File handling part 2	20/05/2021 08:57	File folder
Lesson 23 - Procedure	24/10/2024 14:03	File folder
Lesson 24 - Function	25/10/2024 10:06	File folder
Lesson 25 - Validation, Verification & Aut...	08/11/2023 14:07	File folder
Lesson 26 - End of unit assessment	20/05/2021 08:57	File folder

python™

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EXAMPLES OF PROGRAMMING

44) Create a program that:

- **Asks the user to enter a username and password.**
- **If they get the username AND password are correct, display a "logged in" Otherwise, display "Incorrect details".**
- **Assume correct username= "RushB" and correct password = "CSGO"**

Paste your code below:

```
username = input("Enter a username")
password = input("Enter a password")
if username == "RushB" and password == "CSGO":
   print("logged in")
else:
   print("Incorrect details")
```

```
Enter a usernameRushB
Enter a passwordCSGO
logged in
```

```
____ = ____("Enter a username")
____ = input("Enter a password")
if ____ == "RushB" and ____ == "CSGO":
   ____("____")
____:
   print("____")
```

https://youtu.be/JXVO1r-tMSQ

106. Create a program that:

- **Asks the user to enter 2 numbers that are the equal to each other.**
- **Display the first number multiplied by the second number if they are both the same.**
- **The program will repeatedly ask the user for 2 numbers until both numbers are equal to each other.**

Paste your code on the next slide:

```
number1 = int(input("Enter a number"))
number2 = int(input("Enter another number"))
while number1 != number2:
    number1 = int(input("Enter a number"))
    number2 = int(input("Enter another number"))
print(number1 * number2)
```

```
Enter a number5
Enter another number2
Enter a number5
Enter another number2
Enter a number3
Enter another number4
Enter a number5
Enter another number5
25
```

```
___ = ___(___("Enter a number"))
___ = ___(___("Enter another number"))
___ number1 ___ number2:
    ___ = ___(___("Enter a number"))
    ___ = ___(___("Enter another number"
___(___*___)
```

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- Asks the user to enter 2 numbers that are the equal to each other.
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Enter another number2
Enter a number5
Enter another number2
Enter a number3
Enter another number4
Enter a number5
Enter another number5
25
```

```
___ = ___(___("Enter a number"))
___ = ___(___("Enter another number"))
___ number1 ___ number2:
    ___ = ___(___("Enter a number"))
    ___ = ___(___("Enter another number"
___(___*___)
```

SAMPLE PAPER 2

2 A program needs to perform the following tasks:

- Input two numbers from the user
- Compare both numbers and output the largest number.

(a) Complete the pseudocode for this program.

```
num1 = input("enter first number")
num2 = input("enter second number")

..... num1 > ..... t

    .....

else

    .....

endif
```

Exemplar 1

```
num1 = input("enter first number")
num2 = input("enter second number")
if num1 > num2 then
    output("num1 is larger")
else
    output("num2 is larger")
endif
```

6 A program uses a file to store a list of words that can be used in a game.

A sample of this data is shown in **Fig. 3.**

crime	bait	fright	victory	nibble	loose

Fig. 3

(a) Show the stages of a bubble sort when applied to data shown in **Fig. 3.**

.....

.....

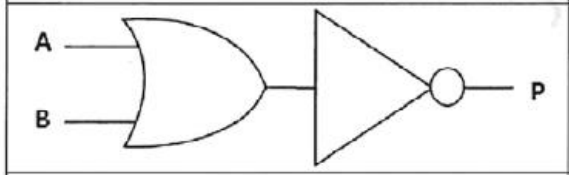
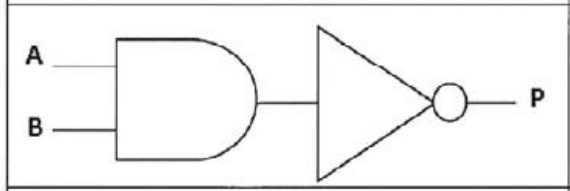
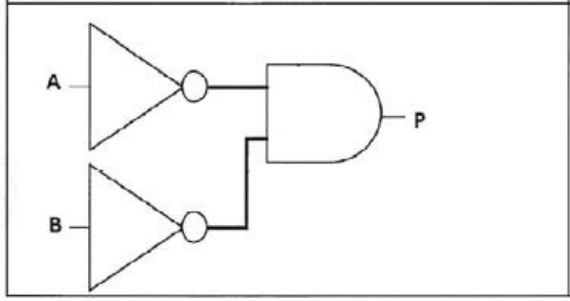
Exemplar 1

crime, bait, fright, victory, n
bait, crime, fright, victory,
bait, crime, fright, victory
bait, crime, fright, nibble,
bait, crime, fright, nibble, lo
bait, crime, fright, nibble, loo
bait, crime, fright, nibble, los
bait, crime, fright, nibble,
bait, crime, fright, nibble,
bait, crime, fright, loose, ni

7 The area of a circle is calculated using the formula $\pi \times r^2$ where π is equal to 3.142 and r is the radius.

A program is written to allow a user to enter the radius of a circle as a whole number between 1 and 30, then calculate and output the area of the circle.

```
01  radius = 0
02  area = 0.0
03  radius = input("Enter radius")
04  if radius < 1 OR radius > 30 then
05  print("Sorry, that radius is invalid")
06  else
07  area = 3.142 * (radius ^ 2)
08  print (area)
09  endif
```

P = NOT (A AND B)	Tick (✓) one box
	
	✓
	

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CAREER OPPORTUNITIES

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WHAT FUTURES CAN STUDENTS PURSUE AFTER STUDYING COMPUTER SCIENCE?

- BTEC Computing, Business, media, film industry
- A level - Computer Science, Business , IT
- IT apprenticeship,
- Programmer, Gaming industry, almost every industry as they become more automated through robots and artificial intelligence, Security

- For further information, please discuss during the break this evening at 6pm, or with your child's Computing teacher during
- Progress Evening, Thursday 6th February
- GGupta@wren.excalibur.org.uk

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