HOLYPORT COLLEGE

COMPUTER SCIENCE TRANSITION WORK

Learning C#

To help you prepare for A-Level Computer Science, you should begin learning C#. Below are some introductory tasks for C#. You should make use of https://www.w3schools.com/cs/ to help you.

Your answers should be in a single cs file. Use comments to label and separate your answers.

You should use Visual Studio to complete your work. You can find the latest Visual Studio download here: https://visualstudio.microsoft.com/#vs-section

Variables & Constants

1. Rearrange these blocks to create some code that assigns a string to a variable.

;	=	string	language	"c#"

2. Write a statement that creates a variable called question and assign the value 9 to it. Then write a statement that updates the variable called question and assigns the value 10 to it.

3. Write a single statement that creates two boolean variables of the same data type and assigns different values to each.

Data Types

4. Match the data types to the values by writing some code that creates 5 variables and assigns the appropriate values to them.

"Hello World"	Double / Float
11	Char
true	Int
10.66	String
'q'	Boolean

5. Write a statement to convert a string to an integer

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User Inputs

7. Write a statement that writes “How old are you?” to the console

8. Write a statement that takes a users input and stores it to a variable

9. Write some code to write “What’s your name” to the console, get an answer from the user and then write “Hello “ and their answer to the console.

Comparison & Mathematical Operators

10. Write some code that asks the user for two numbers and then writes the result of using each of the following mathematical operators on those numbers to separate lines of the console.
    a. Addition
    b. Subtraction
    c. Multiplication
    d. Division
    e. Modulus

11. Write some code that asks the user for two numbers and then writes the results of the using the following comparison operators on those numbers.
    a. Equal to
    b. Not equal to
    c. Greater than
    d. Less than
    e. Greater than or equal to
    f. Less than or equal to

If Statements & Logical Operators

12. Write some code that asks the user for their forename and then writes “Your name is shorter than average” to the console if it is less than 6 letters

13. Write some code that asks the user for their age and then writes “Your age is odd” or “Your age is even” to the console, depending on their age

14. Write some code that asks the user for their name and their age, and then writes “You are even” to the console if their age or the number of letters in their name is even. You should use nested if statements (if statements inside if statements) to complete this question.

15. Write some code that asks the user for their name and their age and then writes “Your name and age and name are odd” to the console if their age and the number of letters in their name are both off. It should write “Your age and name are even” to the console if both are even. You should use nested if statements (if statements inside if statements) to complete this question.

16. Repeat question 15, but do not use nested if statements to complete the task

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For, While & Foreach Loops

17. Write some code that will ask the user for a number and then use a for loop to ask the user for that many numbers before writing the sum of all the numbers (except the first) to the console.

18. Write some code that uses a while loop to ask the user for numbers until they do not enter a number. The sum of all the entered numbers should then be written to the console

19. Write some code that asks the user for a word, then use a foreach loop to write each letter in the word to the console.

20. Put an if statement inside your loop from question 19 so that only the consonants are written to the console.

Further Practice

21. Go to https://www.codewars.com, create an account and complete some C# coding tasks. There will be a reward for the highest honour score.

Theory Catchup

Not all exam boards cover the same material. Take some time to look through the Craig and Dave video library for the major exam boards and do some independent study on anything that you didn't cover while preparing for your exam.
AQA - https://craigndave.org/student-stream/aqa-gcse/
EDEXCEL - https://craigndave.org/pearson-edexcel-gcse-1cp2-videos/
OCR - https://craigndave.org/ocr-gcse-j277-videos/