Shenley Brook End Sixth Form

Summer Transition Tasks

Subject:

Computer Science

Due date:

Monday 7 September 2026

Complete all the assessment tasks and be ready to complete the in-class assessments in your first 3 weeks of term!

Remember – this summer task and knowledge tests will be reported on in your First Progress Report on 6 October 2026

Computer Science A level
Summer Work

Exam Board

OCR – Computer Science A Level: H446

Objectives

The summer work is to ensure that you focus on the elements of a computer system, considering the components of Input, Process and Output (I-P-O) and to prepare for the programming language of the A level course.

Tasks

There are two tasks which are to be submitted in early September (preferably in the first computer science lesson). They are to be word processed and the two documents stored ready to submit. Put your **name in the header** of each document so it appears on each page and put the **page number in the footer** of the document. The layout for each task is stated in the description for each. **Task 1** should take 1 – 2 hours and **task 2** should take approximately 3 hours.

Resources

For task 1 use the internet and/or other resources to search for suitable devices and how they are used, but do not simply cut and paste descriptions – use your own words.

For task 2 you will need to download a suitable compiler to your Windows-based computer, preferably Virtual pascal 2.1 (VP21) from https://www.softpedia.com/get/Programming/Coding-languages-Compilers/Virtual-Pascal.shtml

(If you are unable to get this working you can use Lazarus: https://www.lazarus-ide.org/index.php?page=downloads or an online pascal compiler, e.g.: https://www.onlinegdb.com/online_pascal_compiler Free Pascal is another compiler similar to VP21: https://www.freepascal.org/download.html) as is Turbo Pascal, available from various sites.)

VP21 is the preferred compiler You will need to install this on the laptop that you will use in school on a daily basis and in computer science lessons. Note: VP21 works best on old (especially very old) Windows® computers so you do not need (and are advised not) to have an expensive top-end laptop in school. An old one lurking somewhere at home or a cheap refurbished laptop would be ideal.

For the computer science course, you will need to program in Pascal. There is not a suitable Integrated Development Environment (IDE)/compiler available on the school network. Therefore, you will need to have a Windows laptop with you in school to be able to complete the course. The laptop should have VP21 installed on it (as explained above). If you do not have such a laptop, the school will lend you one to use.

Wider Reading – this should take more than 3 hours

The A level course at Shenley Brook End School uses Pascal as the programming language to teach both the required theory and programming for the coursework. It is an excellent teaching language and uses the required data structures for the exams. It would be useful to familiarise yourself with the language using online material, eg:

https://www.tutorialspoint.com/pascal/index.htm

Assessments during the first three weeks of teaching

- Week 1: Program 1 - Introducing a standard sequential Pascal program
- Week 2: Program 2 - Developing sequence in a Pascal program
- Week 3: Program 3 - Understanding a Pascal program for sequence and a test on computer components

Task 1

A computer system is made up of three main components:

- Input Devices
- The processor/computer
- Output Devices

Research as many different devices as you can find and categorise them appropriately, **stating one application** for each that it could be used for.

Make sure that you identify the actual device, and not just the method. For example:

- Optical Character Recognition is a method; the input device is a(n optical character) scanner.
- Voice recognition is a method; the input device required is a microphone.

For input device make sure you identify what is being input and why. Lay out your results clearly. For example:

Input Devices

Device	An application
Mouse	Entering the continuous locations (x,y coordinates) of the mouse as is it moved by the user to navigate a pointer (as output by the computer) on the screen to move to an icon of an application. It also inputs a signal to the computer when a button is pressed by the user to indicate selection.
Keypad	Entering digits (of a PIN and amount of money) required when using a cashpoint (ATM)
etc	

Do this for all the input devices and output devices that you can find.

For the processor/computer, identify the different types there are (for example, personal desktop computer, laptop, etc. Do not list brand names.) For each type, again give an application when it might be appropriate to use.

There should be three tables submitted; one for input devices, one for output devices and one for processors/computers.

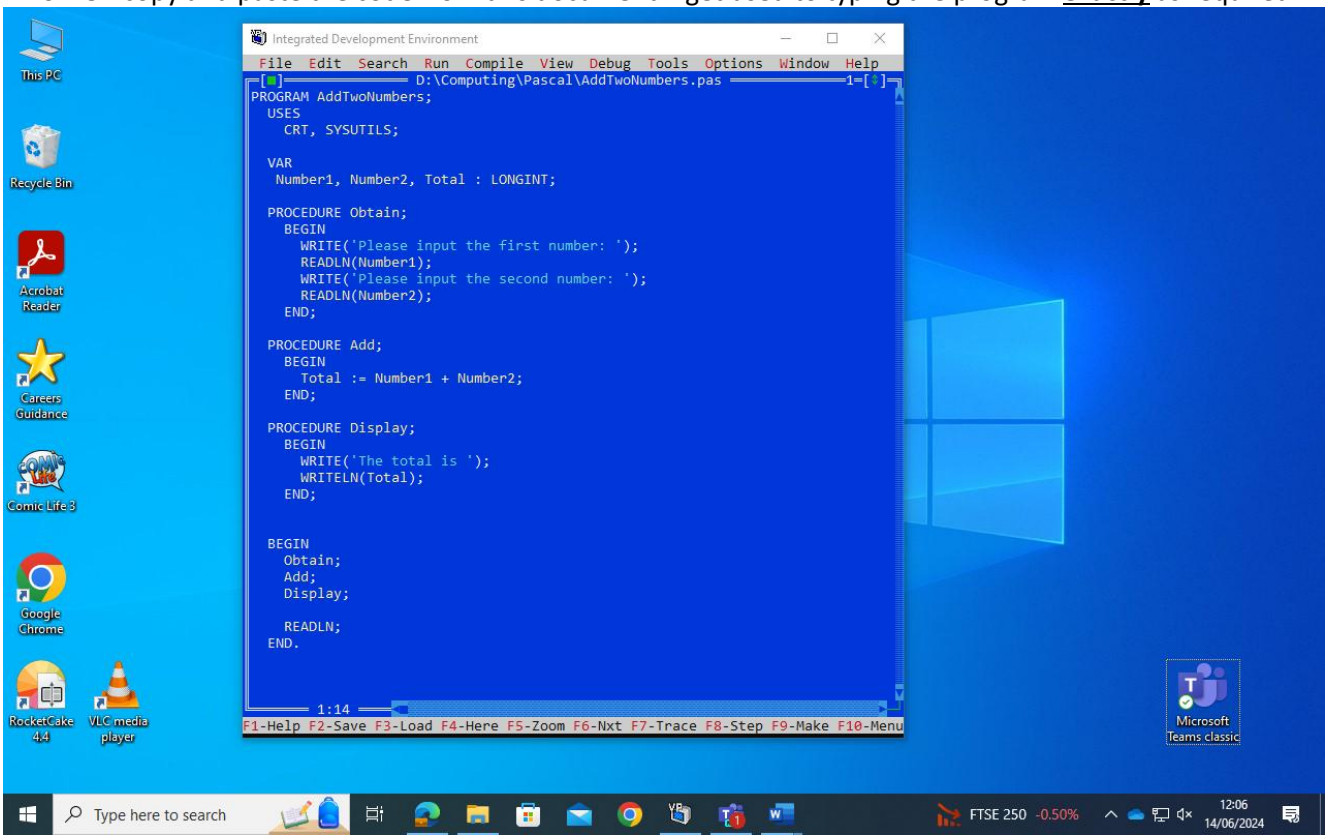
Make sure that the input and output tables are specifically entering or outputting data/information and not carrying out a process. (For example, if you write for the input device mouse "controlling/moving the cursor on the screen" you are **not** stating the input. Control/move is a process and showing something on a monitor is output. Consider what the input is! To help you it's best to start the sentence about each input device with "Entering …" or "To input …"). The application should include a **specific** context/situation. For example, stating that an application for the output device of a monitor is "to display the output from a program" is **not** enough, it's not describing when the program is being used, who by and what the output is for and why it needs to be on a monitor. A better example would be "to display the output when using an ATM to take out money, so that the amount chosen by the user is displayed on the monitor for confirmation so that mistakes are reduced". (Also, make sure that the device is connected to a computer/processor-controlled system, for example simply stating a monitor can be used "to watch a film" is not sufficient if the context is not related a computer system.)

Please read the above description carefully before starting.

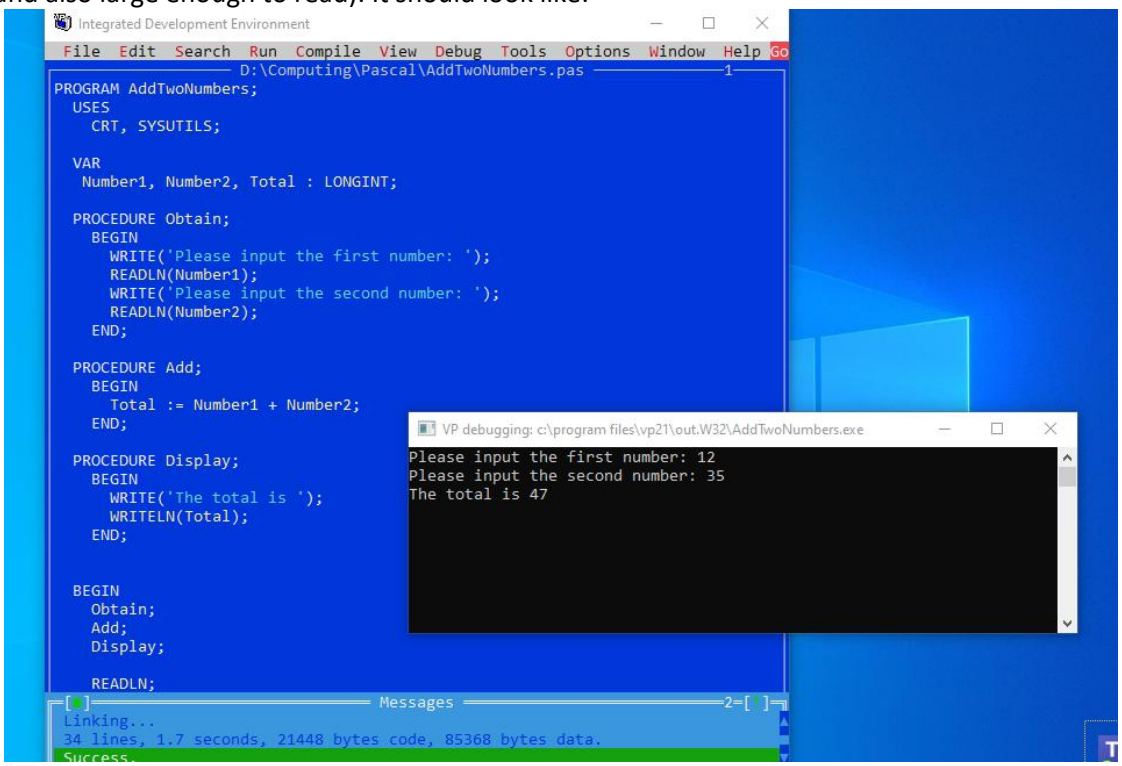
Store this task as one document called "Task 1"

Task 2

- Download VP21 as stated in the "Resources" section and install it on your computer (or use another Pascal compiler).
- Enter the program given at the end of this task (`PROGRAM AddTwoNumbers;`) exactly as shown, ie use capital letters where used, lowercase (camel case), indentation, spaces, blank lines etc as shown.
- Take a screenshot of the program in VP21 (or equivalent) and paste it into your Word document on its own page large enough to read. It should look like the following (but bigger):
- Do NOT copy and paste the code from this document – get used to typing the program **exactly** as required



- Take a screen shot of the output of your program running and paste it into your Word document on its own page (and also large enough to read). It should look like:



Store this task as one document called "Task 2"

```
PROGRAM AddTwoNumbers;
  USES
    CRT, SYSUTILS;

  VAR
   Number1, Number2, Total : LONGINT;

  PROCEDURE Obtain;
    BEGIN
      WRITE('Please input the first number: ');
      READLN(Number1);
      WRITE('Please input the second number: ');
      READLN(Number2);
    END;

  PROCEDURE Add;
    BEGIN
      Total := Number1 + Number2;
    END;

  PROCEDURE Display;
    BEGIN
      WRITE('The total is ');
      WRITELN(Total);
    END;


  BEGIN
    Obtain;
    Add;
    Display;

    READLN;
  END.
```

Submission Date

Monday 7th September