The answers on this worksheet have been taken from the 2018 OCR GCSE Computer Science Paper 2

6-A-Day – Computer Science GCSE (p2.11-2016)

Q1	1 mark per bullet, max 3. • FOR loop used • That outputs the counter variable • loops 10 time	3	Example algorithm ``` for i = 1 to 10 print i next ``` Do not accept WHILE loop for first mark, although other marks can be accessed. No need for `next` If candidate manually increments counter within FOR loop, do not award bullet point 3. Accept pseudocode that suggests looping 10 times, even if this may not function correctly in a specific language.
Q2	1 mark per bullet, max 2. • `else` • `print ("unknown")`	2	Accept logically correct equivalents for else (e.g. `elseif a!="LAN" and/or a !="WAN")`. Do not allow `elseif` on its own Accept other keywords for print (e.g. "output") as long as the intention is clear. Accept other messages as equivalent to "uknown" (e.g. "not known " / "error")) Message to be printed must be in quotes. Allow `"else then"`.
Q3	1 mark per bullet, max 2. • aimed at humans//understandable by humans / programmers • English like structure / syntax • Must be translated/compiled/interpreted (before it can be run) • Allows programmer to deal with the problem instead of considering the underlying hardware // an abstraction from the hardware // hardware independent // portable	2	Allow examples of keywords (eg IF / ELSE / WHILE) as 2nd bullet point. Do not award marks for naming languages such as Java , Python, etc. Do not award marks for stating what a high level language isn't (i.e. describing what low level code is). Do not allow "easy to use" Do not allow 'has to be converted' without into what i.e machine code etc.
Q4	1 mark per bullet, max 4. e.g. • Editor • …to enable **program code** to be entered/edited • Error diagnostics / debugging • …to display information about errors (syntax / run-time) / location of errors • … suggest solutions • Run-time environment • …to enable to the program to be run • … check for run time errors / test the program • Translator / compiler / interpreter • …to convert the high level code into <u>machine code / low level code / binary</u> • …to enable to code to be executed / run	4	One mark for identifying, one mark for describing. Accept description of a tool without (or with incorrect) naming of the tool. Allow sensible descriptions which go across pairs or name other tools sensibly (e.g. editor / highlighting syntax) Allow any sensible tool that an IDE provides (e.g. auto documentation, help tools, pretty printing etc.)

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	- Breakpoints …to stop/pause program execution at a specific point - Watch window …to check contents of variables - Stepping …to execute program line by line - Syntax completion… …suggests/corrects code - Keyword highlighting / colour coding keywords / pretty printing… …colours command words / variables		

Q5	1 mark per bullet, max 6.
	
	   - Initialisation of A, B and C as zero. - Allows input (of anything) from the user - Incrementing A, B and C depending on input - Repeats bullet points 2 and 3 …stopping **only** when "END" is entered - Prints out all 3 individual counts <u>and</u> prints **calculated** total count
		6	Example algorithm
			
			``
			acount = 0
			bcount= 0
			ccount= 0
			vote = ""
			while vote != "END"
			    vote = input("enter A, B or C")
			    if vote == "A" then
			        acount = acount + 1
			    elseif vote == "B" then
			        bcount = bcount + 1
			    elseif vote == "C" then
			        ccount = ccount + 1
			    end if
			endwhile
			print acount
			print bcount
			print ccount
			print acount+bcount+ccount
			``
			
			Do not penalise for missing initialisation of variable used in the while loop or total (if used)
			
			Comparison with value inputted MUST be a string (e.g. `if vote == A`) is incorrect as A here is a variable, not a string.
			
			Answer can be any recognised algorithm – pseudocode, flowcharts, structured English, etc. Mark on whether the bullet points on the left hand side have been met. Does not have to match algorithm above.
			
			4th bullet point (repeat) can be given for any sensible attempt at iteration.
			
			Use professional judgement on where loops end (WHILE / END WHILE or indentation).

Q6			

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