



Computer Science
General course
Externally set task 2018



Satisfactory sample

Student number: In figures

In words



Before starting this task check that you have:

- black or blue pen, 2B pencils
- sharpener
- eraser
- highlighters
- correction fluid/tape.



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Total time for the task: 50 minutes
Total marks: 41 marks
Weighting: 15% of the school mark

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Question 1

(6 marks)

Describe the function of the components of the central processing unit listed below.

Register:

stores data from the ram and feeds to ALU
is alot faster form of tempory memory, helps
speed up processing

Arithmetic logic unit:

Deals with logical functions, adding, subtracting
multiplying data

Program counter:

retrieves and gives data an address for the
register and ALU

Question 2

(5 marks)

- (a) A computer user has discovered that their printer is not working and calls a technician for assistance. Outline **two** steps the technician might advise the computer user to take to troubleshoot the problem. (2 marks)

One: observe and compare what is happening
to what should be happening and
then explain it.

Two: check all hardware is in correct order.
all plugs are where they need to be and
all ink cartridges are full

- (b) Explain the process of troubleshooting a computer hardware fault. (3 marks)

compare what is happening to what's meant to
happen. check all ~~soft~~ hardware is
properly connected. run system analysis to
check for proper software function

Question 3

(11 marks)

The ABC Gymnasium business uses the spreadsheet below to monitor its memberships. Refer to this spreadsheet to answer the questions that follow.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2		ABC Gymnasium Membership										
3		Firstname	Surname	Street	Suburb	State	Postcode	Phone	Date of Birth	Payment Type	Fees Paid	Membership
4		Joe	Smith	12 Harrison Road	Belmont	WA	6104	0415653212	8/03/2000	Yearly	600	600 ← E
5		Bill	Jones	900 West Road	Gwelup	WA	6018	0413654981	5/09/2001	Monthly	55	660
6		Jenny	Robbins	78 Smith Road	Perth	WA	6000	0416632325	16/02/1999	Quarterly	160	640
7		Abby	Benns	56 Jorge Street	Midland	WA	6056	0456213986	2/01/2000	Monthly	↑ 55	660
8												
9		Total Fees										
10		Average Fees										
11		Total Number of members										
12												2560 ← A
13		Payment type	Fees	Frequency								640 ← B
14		Monthly	55.00	12								
15		Quarterly	160.00	4								
16		Yearly	600.00	1								4 ← C
17												

See next page

- (a) Write the function required to total all the fees in cell K9, labelled A on the spreadsheet. (2 marks)

=SUM(K4:K7)

- (b) Write the function required to average all the fees in cell K10, labelled B on the spreadsheet. (2 marks)

=AVERAGE(K4:K7)

- (c) Write the function required to count the number of Yearly Memberships in cell K11, labelled C on the spreadsheet. (2 marks)

=COUNT(K11, K4:K7)

- (d) Write the function required to lookup the Fees Paid based on the Payment Type in cell J6, labelled D on the spreadsheet. (3 marks)

=VLOOKUP(J6, \$B\$4:\$C\$16, 1, TRUE)

- (e) Describe how the table labelled F on the spreadsheet is used. (2 marks)

its used as a look up guide so you can refer to it with a formula and it returns the required info. easier to change if fees increase

Question 4

(8 marks)

Refer to the data in the table below and answer the questions that follow.

Home Contents List

Room/Area	Item description	Make/Model	Number	Date purchased	Estimated current value
Living room	Coffee table	unknown	none	01/07/2017	\$75.00
bedroom	Glass sculpture	local artist	none	10/04/2009	\$300.00
Kitchen	Microwave oven	Smeg	VY1564-56-621	15/08/2011	\$200.00
Living rom	Television	LG	90123908NBG	02/04/2016	\$1500.00
Living room	Lounge suite	Cosy	none	08/05/2014	\$1500.00
Kitchen	Fridge	Westinghouse	2514POL	24/12/2005	\$1000.00
Bedroom	Bed	unknown	none	13/02/2015	\$500.00
Total					\$5075.00

See next page

- (a) Identify one issue with the integrity of the data and explain why it is an issue. (4 marks)

Issue: Multiple user access

Explanation: unauthorised persons have access to the data allowing them to change it. this makes the data unsafe and compromises its integrity.

- (b) Identify one data redundancy issue with the data and explain why it is an issue. (4 marks)

Issue: Repeated forms

Explanation: You are referring to the same place but you have put it under a separate heading making it confusing and redundant could have a separate table for the room and add all items to that then make it a sub table for the main one

Question 5

(11 marks)

A pet shop would like you to design a database for its products. Data for two of the products it sells is shown below. Use this information to answer the questions that follow.

Code:	Dogbed104
Product:	Pied dog bed
Description:	Sheepskin dog bed – Medium size
Quantity:	8
Cost Price:	\$15.00
Vendor:	Better Beds for Pets

Code:	Catbrush89
Product:	Jones cat brush
Description:	Rounded cat brush for long hair
Quantity:	9
Cost Price:	\$3.00
Vendor:	Jones Brush Supplies

- (a) Complete the table below by listing the fields required to design the database for the two products and the data type for each field. (6 marks)

Field	Data type
ID	Auto Number
Code	short text
Product	short text
Description	short text
Quantity	Numeric
COST price	Numeric currency
Vendor	short text

- (b) Identify the field in the table that you would use as a primary key in the database. (1 mark)

 ID

- (c) Write a query to list all the Cat products that would be stored in the database. (3 marks)

Table: Petshop Products

field: Code

criteria: *cat*

- (d) State the function of a primary key in a database. (1 mark)

Gives all data a specific reference for
use with other tables

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