



L.188



Pre-Leaving Certificate Examination, 2024

Computer Science

Marking Scheme

Ordinary Level

Marking schemes for Ordinary and Higher Level exam papers are provided in separate booklets.

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Pre-Leaving Certificate Examination, 2024

Computer Science

Ordinary Level

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Ordinary Level

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Pre-Leaving Certificate Examination, 2024

Computer Science

Ordinary Level

Explanation

Conventions Used

1. A **dash** – before an answer indicates that the answer is a separate answer, which may be considered as independent of any other suggested answers to the question.
2. A **single forward slash** / before an answer indicates that the answer is synonymous with that which preceded it. Answers separated by a forward slash cannot therefore be taken as different answers.
3. A **double forward slash** // is used to indicate where multiple answers are given but not all are required.
4. **Round brackets** () indicate material which is not considered to be essential in order to gain full marks.
5. ‘etc.’ is used in this marking scheme to indicate that other answers may be acceptable. In all other cases, only the answer given or ‘words to that effect’ may be awarded marks.
6. Marks for diagrams are shown as follows (e.g. 5m, 3m, 0m), where 5m indicates the highest possible and 0m the lowest.
7. Answers which are given in this marking scheme should not be considered as the only possible answers that may be accepted. Answers which are synonymous with or equivalent to those in this marking scheme are also acceptable.

Current Marking Scheme

Assumptions about these marking schemes on the basis of past SEC marking schemes should be avoided. While the underlying assessment principles remain the same, the exact details of the marking of a particular type of question may vary from a similar question asked by the SEC in previous years in accordance with the contribution of that question to the overall examination in the current year. In setting these marking schemes, we have strived to determine how best to ensure the fair and accurate assessment of students’ work and to ensure consistency in the standard of assessment from year to year. Therefore, aspects of the structure, detail and application of the marking schemes for these examinations are subject to change from past SEC marking schemes and from one year to the next without notice.

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Pre-Leaving Certificate Examination, 2024

Computer Science

**Ordinary Level
Marking Scheme (210 marks)**

Section A

(54 marks)

Attempt any **nine** questions.

Question 1

(6)

Examine the following piece of Python code and answer the questions below.

1	<code>2var1=2</code>
2	<code>var2=3</code>
3	<code>var3=4</code>
4	
5	<code>print((var2+var3)**var1)</code>

(a) Identify the line containing the mistake in the code. **(3m)**

- line 1 (you can't have a variable name starting with a number)

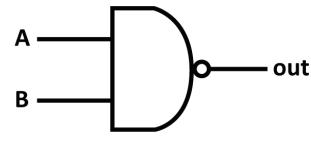
(b) What is the output of the code when the mistake in this line is corrected? **(3m)**

- 49

Question 2**(6)**

Complete the truth table for the NAND gate, shown below in **Figure 1**. (2m + 2m + 1m + 1m)

A	B	out
0	0	1
0	1	1
1	0	1
1	1	0

**Figure 1****Question 3****(6)**

Select the correct computer science term from the following list and place it in Column B to match the number of bits in Column A in the table below. (2m + 1m + 1m + 1m + 1m)

Nibble**Kilobyte****Byte****Megabit****Megabyte**

Column A Number of bits	Column B Term
4	Nibble
8,000,000	Megabyte
1,000,000	Megabit
8	Byte
1024	Kilobyte

Question 4**(6)**

Distinguish between a browser and a search engine.

① Browser (3m)Possible points

- a piece of software that retrieves and displays web pages, *etc.*

② Search engine (3m)Possible points

- a website that helps people find web pages from other websites, *etc.*

** Accept other appropriate material.

3 marks	** Very good explanation - clear understanding demonstrated.
1 mark	** Fair explanation of either term - limited understanding demonstrated.

Question 5**(6)**

CoinLib is an algorithm designed to track the price of a cryptocurrency.

Give **one** advantage and **one** disadvantage of using cryptocurrencies

**Figure 2****① Advantage**Any 1: (3m)

- cheaper to transfer money //
- faster transfers //
- secure //
- decentralised system - do not collapse at a single point //
- not subject to Government decisions like sovereign currencies //
- protected against inflation //
- transparent system - all transfer activity can be viewed by investors // *etc.*

② DisadvantageAny 1: (3m)

- risk of data loss //
- used in criminal activities / illegal transactions //
- value can be volatile //
- large amounts of energy used to mine // *etc.*

** Accept other appropriate answers.

Question 6**(6)**

Hexadecimal numbers are very important in facilitating the speed at which a computer system operates.

Using the information provided in **Figure 3**, show that

$$8A_{16} + B7_{16} = 321_{10}$$

– $(16^0 \times 10 + 16^1 \times 8) + (16^0 \times 7 + 16^1 \times 11)$
= 321 (6m)

- ** Award 3m for any use of a power of 16.
** Award 2m for 138 or 183 mentioned.

Hex	Decimal
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
A	10
B	11

Figure 3**Question 7****(6)**

- (a)** Answer the following question by putting a tick (✓) in the relevant box.
Tick one box only.

Which **one** of the following is a volatile data storage medium? **(3m)**

Hard Disk Drive (HDD)

Solid State Drive (SSD)

USB Flash Drive

Random Access Memory (RAM)

- (b)** Describe **one** difference between primary and secondary storage in computers.

Any 1: **(3m)**

① Primary storage

- stores data for immediate use by CPU
- faster (than secondary storage)
- stores data temporarily
- more expensive per unit (than secondary storage)
- generally smaller (than secondary storage)

② Secondary storage

- stores data that can be used at any time //
- slower (than primary storage) //
- stores data persistently //
- less expensive per unit (than primary storage) //
- larger than primary storage // etc.

- ** Accept other appropriate answers.

Question 8**(6)**

Why is pseudocode used in programming? **(6m)**

- to describe algorithms using a combination of natural language and code-like constructs.
Pseudocode helps the programmer think through a problem and devise a plan for solving it, *etc.*
- ** Accept other appropriate material.

6 marks	** Correct answer.
3 marks	** Very good explanation - clear understanding demonstrated.
1 mark	** Fair explanation - limited understanding demonstrated.

Question 9**(6)**

What is the role of a firewall in computer security? **(6m)**

- acts as a barrier between an internal network
(such as a corporate network or a home network)
and external networks (such as the internet).
Its primary purpose is to monitor and control incoming
and outgoing network traffic based on predetermined
security rules, *etc.*



Figure 4

- ** Accept other appropriate material.

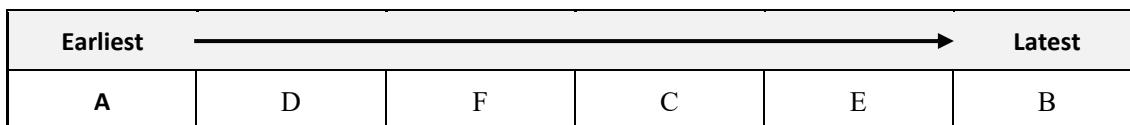
6 marks	** Correct answer.
3 marks	** Very good explanation - clear understanding demonstrated.
1 mark	** Fair explanation - limited understanding demonstrated.

Question 10**(6)**

There have been many milestones in the history of computer science.

Order the milestones in the list below from earliest to latest, using the letters.
The earliest milestone has been done for you. (**2m + 1m + 1m + 1m + 1m**)

Letter	Milestone
A	Development of the first electronic general-purpose computer.
B	Creation of the World Wide Web (WWW).
C	Introduction of the first personal computer.
D	Invention of the transistor.
E	Launch of the first commercially successful graphical user interface (GUI).
F	Invention of the mouse.

**Question 11****(6)**

What is the purpose of a loop in programming? (**6m**)

Possible points

- used to repeatedly execute a block of code until a certain condition is met. Loops are used to automate repetitive tasks, iterate over collections of data or perform actions until a specific condition is satisfied, *etc.*
- ** Accept other appropriate material.

6 marks	** Correct answer.
3 marks	** Very good explanation - clear understanding demonstrated.
1 mark	** Fair explanation - limited understanding demonstrated.

Question 12**(6)**

Give **two** reasons why many companies decide to build data centres in Ireland.

- Any 2: (2 × 3m)
- Ireland offers a favourable business environment with a stable political system, strong rule of law and favourable tax policies //
 - Ireland has a highly skilled and educated workforce, with a strong focus on technology and engineering //
 - Ireland has excellent connectivity infrastructure //
 - Ireland has a temperate climate, which provides natural cooling benefits for data centres. The cooler climate helps reduce the energy required for cooling systems, making it more energy-efficient and cost-effective to operate data centres in Ireland //
 - Ireland is committed to renewable energy sources, with a significant focus on wind power. More and more technology companies are prioritising sustainability and green initiatives // etc.
- ** Accept other appropriate answers.

**Figure 5**

Section B

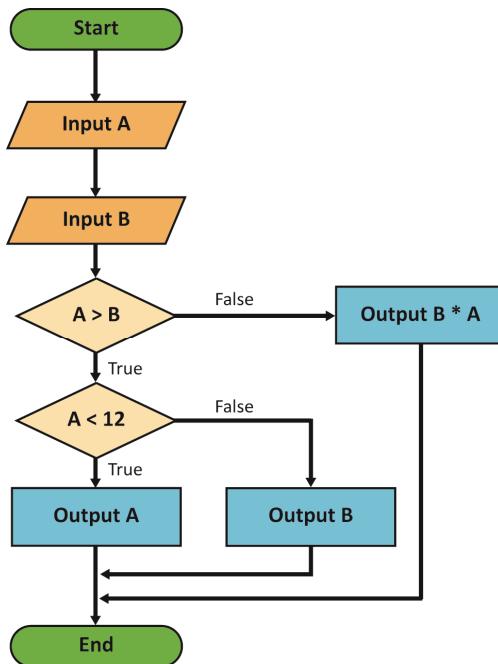
(76)

Answer any **two** questions.

Question 13

(38)

- (a) A program is designed using the algorithmic flowchart shown in **Figure 6** below. (16)

**Figure 6**

Complete the table below with the outputs obtained when each of the following sets of values is inputted as **A** and **B**. (4 × 4m)

Input value of A	Input value of B	Output
15	10	10
6	5	6
2	3	6
12	2	2

Question 13 (cont'd.)

- (b)** James plays hurling for St. Enda's GAA club. He wants to create a program to store the results of each hurling match they play and the names of the point scorers.

James wants individual players from the team to be able to submit this information.

- (i)** Explain what is meant by the term "abstraction". **(6m)**

Possible points

- removing / hiding / obscuring unnecessary detail
 - focusing on the important detail
 - simplifying the problem / reducing complexity / making something easy to solve / understand // etc.
- ** Accept other appropriate material.



(22)

Figure 7

6 marks	** Correct answer.
3 marks	** Very good explanation - clear understanding demonstrated.
1 mark	** Fair explanation - limited understanding demonstrated.

- (ii)** Give **one** example of how abstraction could be used when developing this program.

- Any 1: **(6m)**
- suitable example of what can be focussed on (e.g. player name, match results, points scored) //
 - suitable example of what to remove / hide (anything relevant that is not results / points scored) //
 - suitable example of a simplification made // etc.
- ** Accept other appropriate answers.

6 marks	** Correct answer.
3 marks	** Very good example - clear understanding demonstrated.
1 mark	** Fair example - limited understanding demonstrated.

- (iii)** Names and point scored will be stored in this program. What data type does each of the above represent?

- ①** Names **(5m)**

- string

- ②** Points scored **(5m)**

- integer

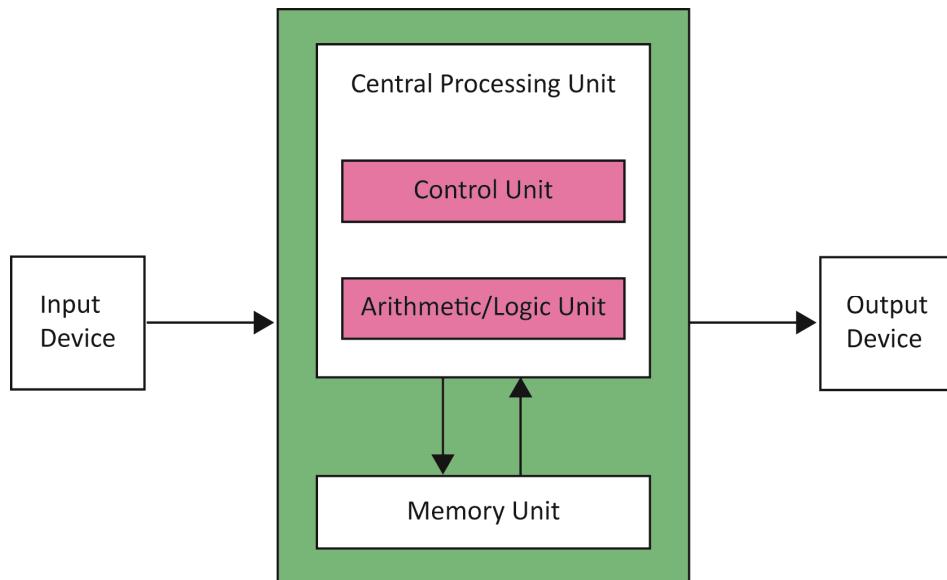
** Do not accept 'float'.

Question 14

(38)

- (a) **Figure 8** below shows the most common system architecture used in computers.

(19)

**Figure 8**

- (i) What is the name of this system architecture? (5m)

- von Neumann (architecture)

- (ii) Give **one** example of an input device and **one** example of an output device that could be connected to this system.

① Input device

- Any 1: (4m)
- microphone //
 - keyboard //
 - mouse //
 - graphics tablet // etc.

② Output device

- Any 1: (4m)
- printer //
 - monitor //
 - speaker // etc.

** Accept other appropriate answers.

Question 14 (cont'd.)

(a) (cont'd.)

(iii) State **two** factors that affect the speed of a CPU.

Any 2: (2 × 3m)

- clock speed //
- cache (size) //
- RAM (size) //
- temperature // etc.

** Accept other appropriate answers.

(b) In the alphabet, the letter G is an example of an open figure and the letter D is an example of a closed figure.

GERRY = €12 AND = €8 JANE = €9 MUSIC = ?

(10)

Use computational thinking to determine the cost of the word MUSIC. (10m)

- each closed letter is €3 and each open letter is €2
 $\Rightarrow \text{MUSIC} = (2 + 2 + 2 + 2 + 2) = \text{€}10$

** Award 5m for any attempt to decompose or abstract.

(c) **LIST 1 = [1, 5, 8, 4, 8, 2, 11, 3]
LIST 2 = [1, 5, 7, 9, 11, 21, 33]**

(9)

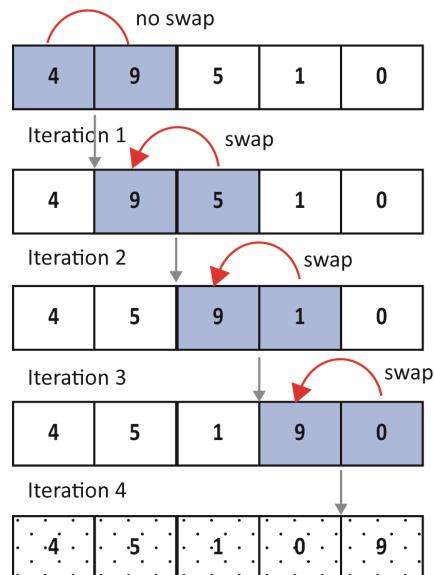
(i) Give **one** reason why it is easier to perform a binary search on list 2 than on list 1. (3m)

- (list 2) is already ordered

** Accept other appropriate answers.

Question 14 (cont'd.)

(c) (cont'd.)

(ii) Identify the type of sorting algorithm shown in **Figure 9** below. (6m)**Figure 9**

— bubble sort

Question 15**(38)**

- (a)** Computer X is a software development company situated in Dublin's Silicon Docks. (16)
The company has begun hiring personnel to develop a new software product.

- (i)** Identify **two** roles within a software development team.

- Any 2: (2 × 2m)
- project manager //
 - software developer / engineer //
 - quality assurance (QA) engineer //
 - user interface (UI) / user experience (UX) designer //
 - systems architect //
 - DevOps engineer //
 - scrum master // etc.

** Accept other appropriate answers.

- (ii)** Outline the responsibilities associated with **each** of the roles that you have named in part **(i)**.

Any 2: (2 × 2m)			
①	Role	②	Responsibilities
	project manager		<ul style="list-style-type: none"> - oversees the entire software development project //
	software developer / engineer		<ul style="list-style-type: none"> - responsible for writing code and developing the software according to the project requirements //
	QA engineer		<ul style="list-style-type: none"> - focusses on testing the software to identify bugs and defects and ensure its functionality //
	UI / UX designer		<ul style="list-style-type: none"> - responsible for creating visually appealing and user-friendly interfaces //
	systems architect		<ul style="list-style-type: none"> - designs the overall software architecture, ensuring that it is scalable and secure and meets performance requirements //
	DevOps engineer		<ul style="list-style-type: none"> - focusses on automating and streamlining the software development processes //
	scrum master		<ul style="list-style-type: none"> - in an agile development environment, the scrum master facilitates the implementation of agile principles and ensures the team follows the scrum framework // etc.

** Accept other appropriate material.

Question 15 (cont'd.)**(a) (cont'd.)**

- (iii)** Some of the newly hired staff have backgrounds in Python.
Give a brief description of how Python is used in the IT industry. **(8m)**

Possible points

- web development: Python frameworks such as Django and Flask are popular choices for web development
- data analysis and data science: Python, along with libraries like NumPy, Pandas and SciPy, is extensively used for data analysis, data manipulation, and scientific computing and machine learning
- automation and scripting: Python's easy-to-read syntax and extensive standard library make it ideal for automation and scripting tasks
- DevOps: Python is a popular choice for DevOps tasks such as configuration management (with tools like Ansible), infrastructure provisioning and deployment automation
- network programming: Python's socket and networking libraries make it suitable for network programming tasks
- cybersecurity: Python is employed in various cybersecurity tasks, including vulnerability scanning, penetration testing and security auditing
- scripting for software testing: Python is commonly used for scripting and test automation in software testing
- natural language processing (NLP): Python, along with libraries like NLTK and spaCy, is widely used in NLP tasks such as text processing, sentiment analysis and language generation // etc.

8 marks	** Excellent description - clear understanding demonstrated.
5 marks	** Very good description - clear understanding demonstrated.
1 mark	** Fair description - limited understanding demonstrated.

- (b) (i)** Choose the most suitable term from the list below and place it in Column B to match the corresponding definition in Column A. Each term should be used only once.

(4 × 2m) **(12)**

Beta testing User-centred design White box testing Adaptive technology

Column A	Column B
The final phase of testing before software is released to the public	Beta testing
An approach that emphasises the involvement of end-users throughout the design and development process	User-centred design
Hardware or software solutions that assist individuals with disabilities	Adaptive technology
A testing technique that examines the internal structure and implementation details of a software application	White box testing

Question 15 (cont'd.)**(b) (cont'd.)**

- (ii)** Computer X wants to make its data centres more environmentally sustainable.
Suggest **two** ways in which it can do this.

Any 2: **(2 × 2m)**

- renewable sources of energy //
 - community central heating //
 - use energy-efficient equipment //
 - locate close to population centres so employees can use green transport options // etc.
- ** Accept other appropriate answers.

- (c)** Computer X's new product is a social media application that allows users to virtually trade cards and share their location. The target market for this application is users aged between 9 and 12 years. (10)

- (i)** Discuss the possible ethical issues associated with such a product. **(5m)**

Possible points

- aimed at pre-teens / 9-12-year-olds / minors / children
- tracking / sharing of location could be controversial - privacy issues
- virtual trading could mean paying a fee / subscription // etc.

** Accept other appropriate answers.

5 marks	** Excellent discussion - clear understanding demonstrated.
3 marks	** Very good discussion - clear understanding demonstrated.
1 mark	** Fair discussion - limited understanding demonstrated.

- (ii)** Suggest a code of behaviour that you think social media companies might need to adopt when developing future technologies. **(5m)**

Possible points

- not publish material that is offensive, racist, sexist, etc.
- to securely store users' private data
- not to share users' personal information
- to be open and transparent about their products
- to have adequate oversight
- accountability
- to design products for the good of society / the environment // etc.

** Accept other appropriate answers.

5 marks	** Excellent suggestion - clear understanding demonstrated.
3 marks	** Very good suggestion - clear understanding demonstrated.
1 mark	** Fair suggestion - limited understanding demonstrated.

Section C

Programming

(80 marks)

Answer all question parts.

Question 16

(80)

(a) Possible solution

```
1 #Question 16(a)
2 #Name and School
3
4 print("Household budget calculator. Enter the following information:")
5 num_adults=int(input("Number of adults in household: "))
6 num_child=int(input("Number of children in household: "))
7 inflation_rate = float(input("Inflation rate (e.g., 0.05 for 5% inflation): "))
8
9 food_budget=300
10 cost_food_adult=50
11 cost_food_child=35
12
13 child_allowance=140
14 extra_child_allowance=160
15 if num_child>3:
16     Total_allowance= 3 * child_allowance + (num_child - 3) * extra_child_allowance
17 else:
18     Total_allowance=num_child*child_allowance
19 #print("the family gets a total allowance of",child_allowance*num_children)
20 print("Children's allowance total: €",Total_allowance)
21 print("Total household food cost: €",cost_food_adult*num_adults+cost_food_child*num_child)
22 #print("the cost of food for the family with inflation is €",
(cost_food_adult*num_adults+cost_food_child*num_child)*(1+inflation_rate))
23 food_inflation=(cost_food_adult*num_adults+cost_food_child*num_child)*(1+inflation_rate)
24 percentage=(food_inflation/Total_allowance)*100
25 print("Total household food cost with inflation: €",round(food_inflation,2))
26 print("Percentage spend on food:",round(percentage,2),"%")
27 print("Budget remaining after food spend: €",Total_allowance+food_budget-food_inflation)
28
```

Question 16 (cont'd.)

- (a) Open the program called **Question16_A.py** from your device.
The source code is shown and described briefly below.

Before making any changes, you should save your working copy of the file using the format **StudentNameQuestion16_A.py**. For example, you would save the file as **MayMurphyQuestion16_A.py** if your name was May Murphy.

Enter your Name and School in the space provided on **line 2** in your Python file.

The program below is a household budget calculator. The code below calculates how much a household of 2 adults and 2 children would spend on food given a fixed income, e.g. the children's allowance, per month.

```

1 # Question 16(a)
2 # Name and School:
3
4 print("Household budget calculator")
5 num_adults = 2
6 num_child = 2
7
8 food_budget = 300
9 cost_food_adult = 50
10 cost_food_child = 35
11
12 child_allowance = 140
13
14 print("Children's allowance total: €", child_allowance*num_child)
15 print("Total household food cost:
€",cost_food_adult*num_adults+cost_food_child*num_child)
```

Question 16 (cont'd.)**(a) (cont'd.)**

Make the following changes to the program:

- (i)** The number of children and adults is hardcoded. Amend the program to allow you to input the number of adults and children in the household. **(5m)**

When the program is run the output may now look as follows:

Household budget calculator. Enter the following information:
 Number of adults in household: 2
 Number of children in household: 3
 Children's allowance total: €420
 Total household food cost: €205

5 marks	** Correct response. Correct implementation using solution above or similar.
3 marks	** Some use of print or brackets or input.
1 mark	** Any valid attempt.

- (ii)** For households with more than 3 children, each child after the third will get an extra €20 in their children's allowance. Amend the program to include this new calculation.

When the program is run and the user enters 1 adult and 4 children, the output may now look as follows: **(15m)**

Household budget calculator. Enter the following information:
 Number of adults in household: 1
 Number of children in household: 4
 Children's allowance total: €580
 Total household food cost: €190

15 marks	** Correct response. Correct implementation using solution above or similar.
10 marks	** Minor errors in layout <u>but</u> numbers correct.
8 marks	** Use of conditionals to attempt to figure out 'more than 3'.
5 marks	** Some attempt at total calculation.
3 marks	** Any valid attempt.

Question 16 (cont'd.)

(a) (cont'd.)

- (iii) The cost of food increases due to inflation. Amend the program to show what effect an inflation rate of 10% has on the total household food cost.

When the program is run and the user enters an inflation rate of 0·1, the output may now look as follows: (5m)

(5)

Household budget calculator. Enter the following information:
 Number of adults in household: 1
 Number of children in household: 4
 Inflation rate (e.g. 0.05 for 5% inflation): 0.1
 Children's allowance total: €580
 Total household food cost: €190
 Total household food cost with inflation: €209.00000003

5 marks	** Correct response. Correct implementation using solution above or similar.
3 marks	** Makes some attempt to create formula or multiply by inflation rate.
1 mark	** Any valid attempt.

- (iv) Amend the code in part (iii) to round the total household food cost with inflation to 2 decimal places.

When the program is run, and the user enters an inflation rate of 0.1 the output may now look as follows: (10m)

(10)

Household budget calculator. Enter the following information:
 Number of adults in household: 1
 Number of children in household: 4
 Inflation rate (e.g. 0.05 for 5% inflation): 0.1
 Children's allowance total: €580
 Total household food cost: €190
 Total household food cost with inflation: €209.00

10 marks	** Correct response. Correct implementation using solution above or similar.
8 marks	** Some attempt to round or use round().
5 marks	** Hard codes a rounded value.
3 marks	** Any valid attempt.

Question 16 (cont'd.)

(a) (cont'd.)

- (v) Amend the program to show the total household food cost (with inflation) as a percentage of the children's allowance total.

When the program is run the output may now look as follows: **(15m)**

(15)

```
Household budget calculator. Enter the following
information:
Number of adults in household: 1
Number of children in household: 4
Inflation rate (e.g. 0.05 for 5% inflation): 0.1
Children's allowance total: €580
Total household food cost: €190
Total household food cost with inflation: €209.00
Percentage spend on food: 36.03%
```

15 marks	** Correct response. Correct implementation using solution above or similar.
10 marks	** Performs some of the calculations on the numbers that have been correctly separated.
8 marks	** Gets the % formula correct with mistakes.
5 marks	** Hard codes the % value.
3 marks	** Any valid attempt.

Question 16 (cont'd.)

(a) (cont'd.)

- (vi) Amend the program to work out the budget remaining after food spend.
 (Hint: Children's allowance total + food budget – Total household food cost with inflation.)

When the program is run the output may now look as follows: **(10m)**

(10)

Household budget calculator. Enter the following information:
 Number of adults in household: 1
 Number of children in household: 4
 Inflation rate (e.g. 0.05 for 5% inflation): 0.1
 Children's allowance total: €580
 Total household food cost: €190
 Total household food cost with inflation: €209.00
 Percentage spend on food: 36.03%
 Budget remaining after food spend: €671.00

10 marks	** Correct response. Correct implementation using solution above or similar.
8 marks	** Some attempt to create budget formula.
5 marks	** Hard codes a budget value.
3 marks	** Any valid attempt.

Save your file using the format **StudentNameQuestion16_A.py**. For example, you would save the file as **MayMurphyQuestion16_A.py** if your name was May Murphy.

Question 16 (cont'd.)

(b) Possible solution

```
1 # Question 16(b)
2 # Name and School
3
4 def calculate_investment_value(principal, interest_rate, years):
5     for year in range(1, years + 1):
6         principal += principal * interest_rate
7         print("Year", year, "- Investment value: €", round(principal,2))
8
9 principal = float(input("Enter the principal investment amount: €"))
10 interest_rate = float(input("Enter the annual interest rate (e.g., 0.05 for 5% interest): "))
11 years = 10
12
13 calculate_investment_value(principal, interest_rate, years)
```

Question 16 (cont'd.)

- (b) Open the program called **Question16_B.py** from your device. This file only contains two comments on line 1 and 2. (20)

Before making any changes, you should use the format **StudentNameQuestion16_B.py** to save your file. For example, you would save the file as **MayMurphyQuestion16_B.py** if your name was May Murphy.

Enter your Name and School in the space provided on **line 2** in your Python file.

Implement a simple Python program that prints off the yearly value of a 10-year investment. The program should be mutable, allowing the user to input different principal investment amounts and interest rates.

An example output is shown below, for a principal investment of €3,000 for 10 years at an interest rate of 8% per annum. (20m)

```
Enter the principal investment amount: €3000
Enter the annual interest rate (e.g. 0.05 for 5% interest): 0.08
Year 1 - Investment value: €3240.00
Year 2 - Investment value: €3499.20
Year 3 - Investment value: €3779.14
Year 4 - Investment value: €4081.47
Year 5 - Investment value: €4407.98
Year 6 - Investment value: €4760.62
Year 7 - Investment value: €5141.47
Year 8 - Investment value: €5552.79
Year 9 - Investment value: €5997.01
Year 10 - Investment value: €6476.77
```

20 marks	** Correct response. Correct implementation using solution above or similar.
15 marks	** Minor issues but student looks like they understand the algorithm behind the problem.
8 marks	** Evidence of trying to use formula for compound interest to get one year's value.
5 marks	** Some evidence variables inputted.
3 marks	** Any valid attempt.

Save your file using the format **StudentNameQuestion16_B.py**. For example, you would save the file as **MayMurphyQuestion16_B.py** if your name was May Murphy.

Notes:



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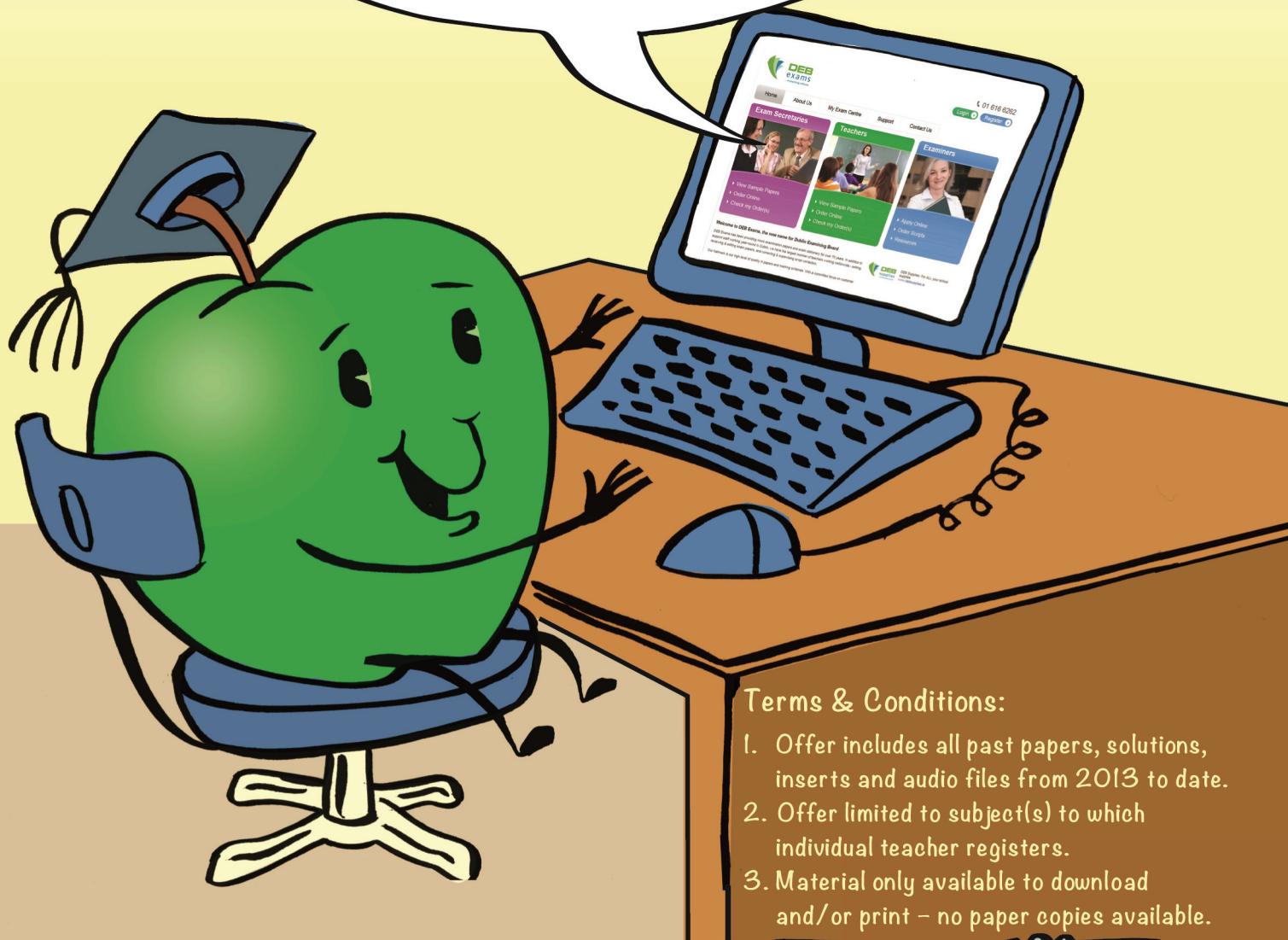
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