

Access to HE: Assignment Brief - Graded

Learner Name:	
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Access to HE Diploma Title	COMPUTER SCIENCE AND MATHS
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Unit Code(s)	Unit Title	Level	Credit Value
QU029889	COMPUTER PROGRAMMING	3	3

Assignment Title	COMPUTER PROGRAMMING
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Tasks		CRITERIA								
1	<p>The 'Magic Carpet Company charge per square metre to supply and fit everlasting carpet. It is available in three colours only, red (£100 per sq metre), blue (£150 per square metre) or green (£200 per sq metre). They need a simple computer program for their showrooms to allow them to enter the order number, the chosen carpet colour and the amount of carpet required (in square metres). They want the program to then calculate the total cost of the carpet and store all four pieces of information in a file (ORDERS.TXT).</p> <p>Here is a sample order:</p> <table><tr><td>Order Number:</td><td>172,</td></tr><tr><td>Colour:</td><td>red,</td></tr><tr><td>Quantity:</td><td>10 square metres,</td></tr><tr><td>Total Cost:</td><td>£1000.</td></tr></table> <p>They need to be able to start the program first thing in the morning, record orders throughout the day and then close down the program at the end of the day. (NB the program should only need to be run once a day.) The Magic Carpet Company has also requested that if possible, they would like to display their company name on the screen.</p>	Order Number:	172,	Colour:	red,	Quantity:	10 square metres,	Total Cost:	£1000.	1.1, 1.2, 1.3
Order Number:	172,									
Colour:	red,									
Quantity:	10 square metres,									
Total Cost:	£1000.									

	<p>The 'Magic Carpet Company' wants their order system to allow them to display details of orders on the screen.</p> <p>As a Programmer at Simple Simon Software you have been given the task of writing a program in C++ to meet the customer's specification.</p>	
	<p>You are also required to produce and submit a portfolio of the answers to the following programming exercises.</p>	
2	Using the for loop write a program that accepts ten numbers, and outputs the average of their sum.	2.3
3	Using the for loop write a program that accepts a number, and outputs the times table for that number	2.3, 1.4
4	Using while loop write a program that accepts a number of integers, the last of which is a zero (used to terminate the input stage), and outputs the sum of those numbers.	2.3
5	Use the while loop to write a program that accepts a number of integers until a number is input that is less than 10, then outputs the biggest number entered.	1.4
6	Write a program to generate successive powers of two (starting at two) until the current value exceeds 1000.	1.4
7	Write a program that lists the numbers from 1 to 12 and writes a special message beside the number representing your month of birth.	1.5
8	Write a program that lists all the numbers from 1 to 12 except the numbers 2 and 9	1.5

9	<p>A newly established Bureau De Change (currency exchange shop) requires a computer software or program to be used in currency exchange calculations.</p> <p>You have been approached as a programmer to write a computer program that will enable the shop to convert the currencies from one currency to another currency at the day's exchange rate depending on the user's desire.</p> <p>Your program will have a menu for example:</p> <table><tr><th colspan="2">Currency Exchange</th></tr><tr><td>1</td><td>Convert to Euro</td></tr><tr><td>2</td><td>Convert to US Dollar</td></tr><tr><td>3</td><td>Convert to Japanese Yen</td></tr><tr><td>4</td><td>Convert to Pound</td></tr></table> <p>The user is asked which conversion is to be performed. If for example the desired conversion is Pounds to Euros, then the user types in the amount to be converted in pounds. Then the program outputs the equivalent amount in Euros and cents. If the user instead requests a conversion from Euro to pounds, then the roles of pounds and euros are interchanged.</p> <p>The program should allow exchange of more than six currencies of the world.</p> <p>The program should allow the user to carry out as many conversions as possible without closing the program down. This means that the program should ask the user if they want to continue or end the program.</p>	Currency Exchange		1	Convert to Euro	2	Convert to US Dollar	3	Convert to Japanese Yen	4	Convert to Pound	2.2, 2.3
Currency Exchange												
1	Convert to Euro											
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	<p>Portfolio of Evidence: Supporting Evidence Supporting Annotation</p> <p>500 WORDS</p>											

Grade Descriptor profile awarded for this assignment	GD1	GD2	GD3	GD4	GD5	GD6	GD7
		√	√				√

Date Handed Out	Submission Deadline	Actual Date Submitted
07/12/2022	11/01/2023	

Extension Request	
Formal Extension Request:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Extension Deadline:	
Tutor/Assessor Signature to Agree Extension:	
Actual Date Submitted:	
Resubmission Deadline	
Resubmission Deadline:	25/01/2023
Date Resubmission Submitted:	
Date Returned to Student:	
Referral Request?	Yes <input type="checkbox"/> No <input type="checkbox"/>

Learner Name:			
Tutor/Assessor:			
Learner Declaration: I declare that all the work submitted for this unit is my own, and that where I have drawn on the work of others, I have referenced this in accordance with the College Policy.			
Learner Signature:		Date:	
Please attach the entire assignment brief to work submitted for assessment. Your work cannot be assessed unless you have signed and submitted this form. Electronic signature will suffice.			

Access to HE Diploma Title	COMPUTER SCIENCE AND MATHS
Assignment Title	COMPUTER PROGRAMMING
Assessment Criteria	
1.1	Declare and use meaningful variables and constants
1.2	Declare appropriate simple data types
1.3	Use meaningful identifiers
1.4	Write programs including arithmetic and simple input and formatted output statements
1.5	Use spaces, blank lines and indentation to make program easier to read and understand
2.1	Select appropriate relational operators
2.2	Use two selection statements
2.3	Use three iteration statements

Grade Descriptors

This assignment is graded using elements from the grade descriptors below

If you achieve **all** assessment criteria listed above at Level 3, you will be awarded a **Pass**. To gain a Merit or Distinction, your work must match the performance described in the following grade descriptors.

Grade Descriptor	To achieve a Merit:	To achieve a Distinction:
GD 2: Application of knowledge	The student, student's work or performance: A: makes use of relevant <ul style="list-style-type: none"> Ideas C: Very good levels of accuracy	The student, student's work or performance: A: makes use of relevant <ul style="list-style-type: none"> Ideas C: Excellent levels of accuracy
GD3 Application of skills	The student, student's work or performance: A: generally, selects appropriate <ul style="list-style-type: none"> skills C: very good levels of <ul style="list-style-type: none"> Creativity 	The student, student's work or performance: A: consistently selects appropriate <ul style="list-style-type: none"> skills C: Excellent levels of <ul style="list-style-type: none"> Creativity
GD7 Quality	The student, student's work or performance: <ul style="list-style-type: none"> taken as a whole, demonstrates a very good response to the demands of the brief/assignment 	The student, student's work or performance: <ul style="list-style-type: none"> taken as a whole, demonstrates an excellent response to the demands of the brief/assignment

Additional Guidance

Please give guidance to the learners

To achieve a Merit:	To achieve a Distinction:
<ol style="list-style-type: none"> Task 1 must satisfy criteria 2.1, 2.2, 2.3 Protect the programs with a password <ul style="list-style-type: none"> Tasks 1 only Output to be sent to textfiles Produce a user guide for the programs <ul style="list-style-type: none"> Tasks 1 only <p>Show understanding of advanced programming techniques</p>	<ol style="list-style-type: none"> Tasks 1 must satisfy criteria 2.1, 2.2, 2.3 Protect the programs with a password <ul style="list-style-type: none"> Tasks 1 only Output to be sent to textfile <ul style="list-style-type: none"> Task 1 only All input to be validated <ul style="list-style-type: none"> Task 1 only Produce a user guide for the programs <ul style="list-style-type: none"> Tasks 1 only

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| | <p>6. Allows the user to run the programs as many times as required without exiting the program</p> <ul style="list-style-type: none">- <i>Tasks 1 only</i> |
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Show in-depth understanding of advanced programming techniques