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**WJEC GCSE Computer Science**

**Unit 3**

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| Name Of Candidate | Josh Harries |
| Candidate Number | 1091 |
| Centre Name | Ebbw Fawr Learning Community |
| Centre Number | 68394 |

# Design Of The Solution (8 Marks)

***The Candidate Has Provided A Detailed Analysis Of The Task And A Comprehensive Description Fully Justifying Their Intended Solution In Terms Of The Programming Facilities Of The Language Software Chosen. The Pseudocode (Or Flow Chart) Is Well Annotated, Showing A Thorough Understanding. The Candidate Has Produced A Complete Suite Of Algorithms Covering The Whole Solution As Well As Any Validation Required. There Is A Comprehensive Testing Strategy And Evaluation Criteria That Will Allow The Performance Of The Completed System To Be Measured. The Design Demonstrates A Clear Sense Of Audience And Purpose.***

## Design Brief

A New Business Has Opened In Your Local Area That Provides Materials And Ingredients For Home Bakers To Create Cakes And Other Baked Items In Their Own Kitchens.

The Owner Has Decided To Extend The Business By Allowing Customers To Purchase Cake Kits Over The Internet. Customers Will Be Able To Select The Items They Wish To Make And The Owner Will Send Them All The Basic Ingredients That They Will Need.

To Make Sure That The Business Runs Efficiently The Owner Needs A System To Work Out The Basic Ingredients For Each Of The Recipes Chosen And Calculate The Total Of Each Basic Ingredient Needed.

The Owner Will Not Have Time To Weigh Out These Ingredients Individually And Therefore Wants To Send Out Bags Of Each Ingredient. The Bakery Has A Range Of Bag Sizes For The Standard Ingredients Such As Sugar And Flour. Sometimes Customers Will Want To Make More Cakes.

## My Task

* Input A Customer’s Order Which May Include Ingredients For More Than One Recipe
* Calculate And Display The Total Quantity For Each Ingredient
* Calculate The Fewest Required Number Of Bags And Boxes Of Each Basic Ingredient
* Produce And Display A List Of All Bags And Boxes Of Each Basic Ingredient To Be Sent To A Customer

## Hardware And Software

I Will Use Microsoft’s Visual Basic Studio 2013 (Or Newer) As An IDE To Help Develop The Program And Use The Native Language Visual Basic. I Will Also Use [Https://Www.Draw.Io/#](https://www.draw.io/) To Create My Flowcharts. Microsoft Visual Basic Will Produce An Executable File (.Exe) That Is Portable.

## Initial Analysis And Ideas

I Will Use Self-Documenting Code To Make My Program Easier To Read By Others. I Will Also Add Comments To Remind Me What Each Part Of My Program Does. This Will Be Especially Useful If I Or Anybody Else Needs To Update My Program In The Future.

The First Thing I Will Do In My Project Is Design My Flowcharts And Algorithms. This Will Help Me Visualise How The User Will Interact With The Program And How Data Will Flow Through The System. I Will Also Use Printouts During The Program Development To Help Me Debug Any Situation That May Arise.

When My Program Is Complete I Will Test It Thoroughly Using Test Data To Make Sure That It Performs All Tasks Set Out In My Design Brief. At The End Of My Project I Will Evaluate My Program Commenting On Its Functionality And Limitations. I Will Also Include A Section On Future Developments.

## User Interface

My Program Will Be In A Windows Form, So That The User Will Be Able To Operate The Program With Ease. It Will Be Only One Screen With 2 Main Inputs For The Program, Which Will Output To Various Labels On The Screen, Displaying The Needed Amount. There Will Also Be An Option To ‘Print To File’, Which Allows The User To Have A Full Order History Day By Day Basis And A Full Order History, With The Option To Add An Order Name.

During The Development Of My Project I Will Incorporate Some Error Checking And Validation Techniques To Minimise User Error.

## Target Audience

Since The Target Audience Will Vary From Young To Old, I Will Design A Plain, Simple To Use Interface That Anyone Can Use.

## \*\*\* Add Your Flowcharts \*\*\*

## \*\*\* Add Your Algorithms \*\*\*

## Validation

## My Success Criteria

# Implementation (17 Marks)

***The Candidate Has Produced A Fully Functioning Solution To The Given Task. They Have Fully Exploited, As Appropriate, The Facilities Of The Chosen Programming Language And Have Demonstrated A Sound Understanding Of The Appropriate Techniques Available To Them.***

# Program Documentation (5 Marks)

***The Candidate Has Fully Documented A Solution And Used Appropriate Self-Documenting Identifiers. Listings Of Each Programming Routine Are Appropriately Laid Out And Contain Sufficient Annotation To Demonstrate A Sound Understanding Of The Programming Code Used. The User Interface Is Fit For Audience And Purpose.***

# Testing (5 Marks)

***The Test Plan Covers All The Success Criteria And The Candidate Has Included Extensive Evidence Of Thorough Testing Of The Completed Solution With An Informed Commentary Of The Testing Process.***

## Test Data

## Testing My Interface

# Evaluation (12 Marks)

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| ***The Candidate Has Produced An Informed Discussion Of The Performance Of The Completed Solution Against The Evaluation Criteria. The Candidate Is Able To Make Valid Suggestions For Further Improvements. The Text Is Legible, Information Is Organised Clearly With Correct Use Of Specialist Vocabulary Where Appropriate And Meaning Is Clear. Spelling, Punctuation And Grammar Are Accurate. The Form And Style Of Writing Is Appropriate To Purpose And Subject Matter.*** |

## Future Developments