35597836_MANG1041_Individual.docx

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MANG1041

Individual Coursework (20%)

35597836

```
/* MANG1041 Individual Coursework - UK Fruit and Veg Consumption Analysis */

/* This program explores household-level trends in fruit and vegetable purchases
using the 'food.xlsx' excel file */

/* All tasks are completed by using only the WORK library, following instructions and
requirements on the brief */


/* Task 1: Import the data into SAS  */

/* Bringing in the dataset from food.xlsx and saving it into the WORK library as ‘food’
*/

proc import datafile='C:\Users\nad1e23\OneDrive - University of
Southampton\Documents\MANG1041\food.xlsx'

        out=work.food

        dbms=xlsx replace;

        sheet='food';

        getnames=yes;  /* First row contains variable names */

run;


/* Task 2: Sort food items by their 2015 quantities from largest to smallest */

/* This step helps us identify the most consumed items in 2015 */

/*To sort items from largest to smallest, using ‘by descending’ */

proc sort data=work.food;

        by descending quantity2015;

run;


/* Task 3: Filter and display only the ‘Fresh fruit’ category,  sorted by 2015
consumption */

/* This step helps us focus on specific fresh fruits and how popular they were in 2015
*/

proc print data=work.food;

        where category1='Fresh fruit';

        var food quantity2015;
```

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run;

/* Task 4: Create a subset for vegetables (excluding potatoes) with data from 1975 &
2015 only */

/* This step allows us to compare change over 40 years (1975-2015) for these
specific food items */

data work.veg;
        set work.food;
        where category2='Fresh and processed vegetables, excluding potatoes';
        keep food quantity1975 quantity2015;
run;

/* Task 5: Add a new variable (change40) to measure the change between 1975 &
2015 */

/* The new variable ‘change40’ will show how many times the 2015 amount is
compared to 1975 */

data work.veg;
        set work.veg;
        if quantity1975>0 then change40=quantity2015/quantity1975;
        else change40=.;
run;

/* Task 6: Rank vegetables based on how much their consumption has grown over
40 years */

/* Sorting by ‘change40’ helps us identify which vegetables gained popularity the
most */

proc sort data=work.veg;
        by descending change40;
run;

/* Task 7: Display the top 5 vegetables with the biggest growth */
```

```
/* Printing only the names and growth ratios of these vegetables for clarity */
proc print data=work.veg (obs=5);
        var food change40;
run;


/* Task 8: Task 8: Use the TABULATE procedure to summarise 2015 quantities for
each category1 in each category2 */
/* This step uses the TABULATE procedure to create a table that shows the total
amount of fruit and veg purchased in 2015.
  - 'class' tells SAS to group the data by category1 and category2.
  - 'var' tells SAS which numeric variable to calculate (quantity2015).
  - The 'table' layout shows category2 as the main row heading, and under each
category2, it breaks down the total quantity by category1.
This helps us see which types of food (category1) contributed most to each
subcategory (category2). */
proc tabulate data=work.food;
        class category1 category2;
        var quantity2015;
        table category2, category1*quantity2015*sum;
run;
```

table category2*category1, quantity2015;

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GRADEMARK REPORT

FINAL GRADE

90/100

GENERAL COMMENTS

The code is fine. When using the WORK library, there is no
need to use its name in the code. Very well done!

Tasks:

T1: 10/10

T2: 10/10

T3: 10/10

T4: 10/10

T5: 10/10

T6: 10/10

T7: 10/10

T8: 5/10

Addresses tasks/ question set (Performing the tasks using a
SAS program): 75/80

Structure (Comments, the structure and elegance of the SAS
program): 15/20

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table category2*category1, quantity2015;

There should be:

table category2*category1, quantity2015;