UOW AUSTRALIA

School of Computing and Information Technology

Student to complete:

Family name	
Other names	
Student number	
Table number	

CSIT110
Fundamental Programming with Python
Wollongong Campus

Examination Paper
Autumn Session 2018

Exam duration	3 hours
Weighting	60%
Items permitted by examiner	None
Aids supplied	None
Directions to students	5 questions to be answered. Answer each question on a separate page.

This exam paper must not be removed from the exam venue

Total number of marks on this exam is 60.

Question 1. (**10 marks)** Given the following code:

```
product_code = "247B"
product_name = "Real Beef Stock"
product_made = "Made in Australia"
product_price = 4.35
```

1) What is the output of the following statement?

```
print("product_code + product_name + product_made")
```

2) What is the output of the following statement?

```
print(product_code + " product_name " + product_made)
```

3) What is the output of the following statement?

```
print(product_code + ", " + product_name + ", + product_made")
```

4) What is the output of the following statement?

```
print(product_code + ", " + product_name + ", " + product_made)
```

5) Write one print statement using the above variables and **string addition** so that it produces the following exact output:

```
247B: Real Beef Stock, Made in Australia
```

6) Write one print statement using the above variables and **string addition** so that it produces the following exact output:

```
"Real Beef Stock", Made in Australia
```

7) Write one print statement using the above variables and **string addition** so that it produces the following exact output:

```
Real Beef Stock, $4.35, Made in Australia
```

Question 2. (**10 marks)**
Write a program to do the following:

- First, ask the user how many subjects the user wants to enroll.
- Then ask the user to enter each subject code.
- Finally, display all the subjects the user has selected.

The program should work as in the following example:

```
How many subjects would you like to enroll? 3
Enter subject code: MATH 111
Enter subject code: CS 101
Enter subject code: STAT222

You have selected the following subjects: MATH 111, CS 101, STAT222.
```

Question 3. This question has 2 parts:
1. (**10 marks)** Write a function named **format_date**
   - The function has **3 integer arguments**: date, month, and year;
   - The function returns **a date string** in the format of DD/MM/YYYY

For example, if the argument date is 1, month is 2, year is 2000, then the function returns the string 01/02/2000; if the argument date is 10, month is 11, year is 2018, then the function returns the string 10/11/2018.

2. (**10 marks)** Write a main program, that asks the user to enter a date, a month and a year, and then uses the above function to display the entered date in the format DD/MM/YYYY. The program should work as in the following example:

```
Enter date: 3
Enter month: 10
Enter year: 2000

You have entered: 03/10/2000
```

Question 4. (**10 marks)**
Consider the following Farmer Problem: "Farmer John had ducks and cows. One day he noticed that the animals had a total of 10 heads and 28 legs. How many of the animals were ducks and how many were cows?" The solution is 6 ducks and 4 cows.

Write a program to solve the Farmer Problem. The program asks the user to enter the number of animal heads and the number of legs. Then the program uses the **FOR LOOP** to search for a solution. If there is a solution, then the program displays the solution, otherwise, the program should display a message saying that there is no solution.

The program should work as in the following example:

```
Enter head count: 10
Enter leg count: 24

Solution found. duck: 8, cow: 2
```

Here is another example:

```
Enter head count: 10
Enter leg count: 23

No solution found.
```

Question 5. (**10 marks)**
Write a program that uses the **WHILE LOOP** that asks the user to enter a digit (0-9) and then displays the entered digit as English word. The program should run forever and the user has to enter q to quit the program. The program should work as follows:

```
Enter a digit (0-9) or q to quit: 5
You have entered: five
Enter a digit (0-9) or q to quit: 0
You have entered: zero
Enter a digit (0-9) or q to quit: 2
You have entered: two
Enter a digit (0-9) or q to quit: q
Good bye!
```

END OF EXAM