# Homework 1 Fundamentals Answers

1. **Debugging**

Look at the following code – there are 3 errors.

weightOne = float(input(“Enter the weight of box 1: ”))

weightTwo = float(input(“Enter the weight of box 2: ”))

if weightOne > weightTwo:

print(“Box 1 is lighter”)

elif weightOne < weightTwo:

Print(“Box 2 is lighter”)

else:

print(“The two boxes weigh the same)

Identify each error, state whether it is a **logic** or **syntax** error and explain how to fix it. [6]

Error 1: If statement wrong way round

Type of error: Logic

Solution: Reverse the ‘>’ ‘<’ signs OR make the print statements say ‘heavier’

Error 2: Line 6 – Print has a capital p

Type of error: Syntax

Solution: print(“Box 2 is lighter”)

Error 3: Line 8 – No closing speech mark

Type of error: Syntax

Solution: print(“The two boxes weigh the same”)

1. **Runtime error**

Give an example of a value the user could enter that would trigger a runtime error. [2]  
  
If the user enters a non-numeric value for either of the weights (e.g. ‘3.6kg’)

1. **Print Statements**

Describe the output of the following program. [2]

name = “Dave”  
 age = 23  
 topping = “mushroom”  
 print(name + “is” , age , “years old.”)  
 print(name , “ loves ” + topping + “ pizza.”)

Daveis 23 years old. [no space between “Dave” and “is”]  
 Dave loves mushroom pizza. [two spaces between “Dave” and “loves”]

Rewrite the last two lines of code so that the printout is neat and tidy. [2]

print(name + “ is” , age , “years old.”)  
 print(name , “loves ” + topping + “ pizza.”)  
  
 [ALLOW ANY RESPONSE THAT USES SPACES AROUND + CONCATENATION AND HAS NO  
 SPACES AROUND COMMAS. NOTE THAT ‘age’ NEEDS COMMAS, OR CASTING]

1. **Data Types**

Re-write the following table to match the data types with their descriptions and examples:

|  |  |  |
| --- | --- | --- |
| Data Type | Description | Example |
| integer | Any piece of text | True |
| float | Can only be True or False | 5 |
| boolean | A fractional number | “Dave” |
| string | A whole number | 7.3 |

|  |  |  |
| --- | --- | --- |
| Data Type | Description | Example |
| Integer | A whole number | 5 |
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| boolean | Can only be True or False | True |
| string | Any piece of text | “Dave” |

[4]

[Total 16 marks]