

100% Homework sheet



computer programs can have more than one 'bug'!

syntax

This error is like a grammar or spelling mistake, and your program won't run until you find and correct the error.

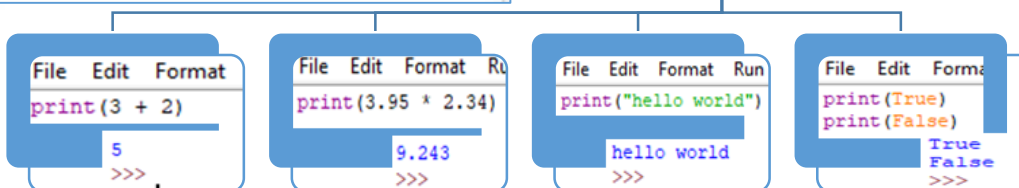
logical

Your program runs, but it is incorrect. For example, to add 3 and 4 you put 3 - 4 instead of 3 + 4 in your code by mistake.

runtime

An unexpected error that happens when a program is running. For example, your program can't find a file that it needs.

Python Data types



Python -> English	
<code>print("hello!")</code>	Prints a value on screen (in this case, hello!)
<code>input("")</code>	Inputs a value into the computer.
<code>x = input("")</code>	Inputs a value and stores it into the variable x.
<code>x = int(input(""))</code>	Inputs a value into x, whilst also making it into an integer.
<code>answer = x + y</code>	Saves the result of x and y added together in a variable named answer.
<code>print(str(x))</code>	Prints the variable x, but converts it into a string first.
<code>print("Hello", "World")</code>	Prints the two strings concatenated with a space between. This code would output "Hello World".
<code>age = 12</code> <code>print("Age: " + str(age))</code>	The + joins together two variables when printing. Str has to be used to cast age to be a string. This code will output "Age: 12".
<code>if name == "Fred":</code>	Decides whether the variable 'name' has a value which is equal to 'Fred'.
<code>else:</code>	The other option if the conditions for an if statement are not met (eg. name = 'Bob' when it should be Fred)
<code>elif name == "Tim":</code>	elif (short for else if) is for when the first if condition is not met, but you want to specify another option.
<code># COMMENT</code>	# is used to make comments in code – any line which starts with a # will be ignored when the program runs. They are used to describe the code to a programmer.
<code>for i in range(0,10):</code> <code># WRITE CODE HERE</code>	Repeats any code indented after this line a set number of times, in this case, 10.
<code>while x < 10:</code> <code># WRITE CODE HERE</code>	Repeats any code indented after this line until a condition is met, in this case x becoming equal to or greater than 10.
<code>list = ["", ""]</code>	Creates a variable and makes it an array – a list which can store many values.

Addition example code

```

number1 = int(input("Input the first number :"))
number2 = int(input("Input the second number :"))
answer = number1 + number2
print("The answer is " + str(answer))
    
```

The code above takes two number inputs and stores them as variables called number1 and number2. It then adds these together and saves them in a variable called answer. The final line prints the answer out in a sentence.

Selection example code

```

fav_num = int(input("Pick a number between 1 & 10..."))

if(fav_num == 7):
    print("Good guess!")
elif(fav_num < 7):
    print("Too low!")
else:
    print("Too high!")
    
```

The code above inputs a number. If the number is 7 it will print "Good guess!", if it is less than 7 it will print "Too low!" and for anything else it will print "Too high!".