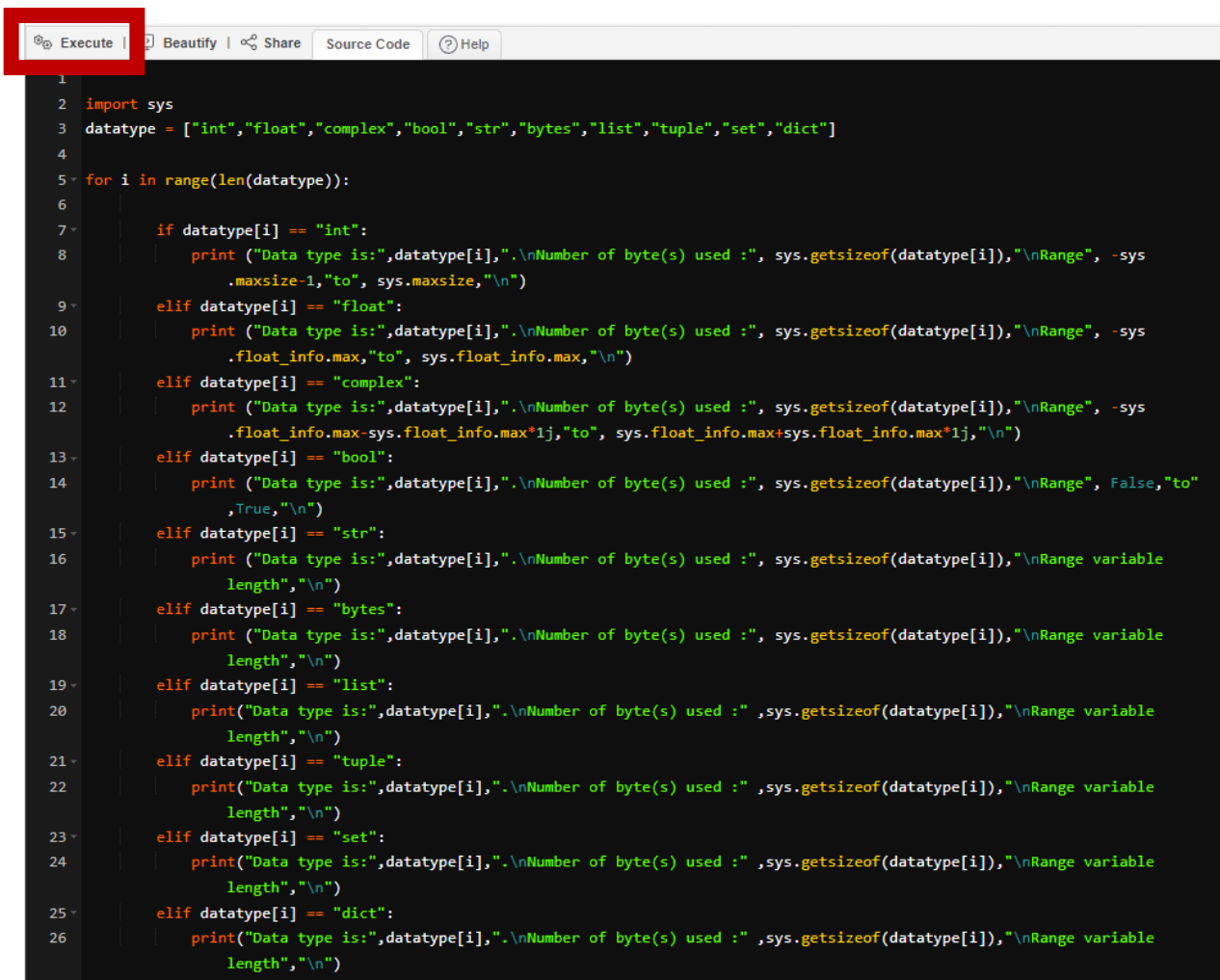# Write a program/function in any programming language that will print out data type, number of byte(s) used by the data type, and its range of data value for ALL primitive/built-in data types.

Steps for execution

1. Copy the code from *"Advanced Software Paradigms_CSCI_6221_10_Sagar_Sheth_HW2.txt"*.
2. Open the below link in the web browser.
   a. https://www.tutorialspoint.com/online_python_compiler.php
3. Paste the Code in and Click on the Execute Button.

```python
import sys
datatype = ["int","float","complex","bool","str","bytes","list","tuple","set","dict"]

for i in range(len(datatype)):

    if datatype[i] == "int":
        print ("Data type is:",datatype[i],".\nNumber of byte(s) used :", sys.getsizeof(datatype[i]),"\nRange", -sys
            .maxsize-1,"to", sys.maxsize,"\n")
    elif datatype[i] == "float":
        print ("Data type is:",datatype[i],".\nNumber of byte(s) used :", sys.getsizeof(datatype[i]),"\nRange", -sys
            .float_info.max,"to", sys.float_info.max,"\n")
    elif datatype[i] == "complex":
        print ("Data type is:",datatype[i],".\nNumber of byte(s) used :", sys.getsizeof(datatype[i]),"\nRange", -sys
            .float_info.max-sys.float_info.max*1j,"to", sys.float_info.max+sys.float_info.max*1j,"\n")
    elif datatype[i] == "bool":
        print ("Data type is:",datatype[i],".\nNumber of byte(s) used :", sys.getsizeof(datatype[i]),"\nRange", False,"to"
            ,True,"\n")
    elif datatype[i] == "str":
        print ("Data type is:",datatype[i],".\nNumber of byte(s) used :", sys.getsizeof(datatype[i]),"\nRange variable
            length","\n")
    elif datatype[i] == "bytes":
        print ("Data type is:",datatype[i],".\nNumber of byte(s) used :", sys.getsizeof(datatype[i]),"\nRange variable
            length","\n")
    elif datatype[i] == "list":
        print("Data type is:",datatype[i],".\nNumber of byte(s) used :" ,sys.getsizeof(datatype[i]),"\nRange variable
            length","\n")
    elif datatype[i] == "tuple":
        print("Data type is:",datatype[i],".\nNumber of byte(s) used :" ,sys.getsizeof(datatype[i]),"\nRange variable
            length","\n")
    elif datatype[i] == "set":
        print("Data type is:",datatype[i],".\nNumber of byte(s) used :" ,sys.getsizeof(datatype[i]),"\nRange variable
            length","\n")
    elif datatype[i] == "dict":
        print("Data type is:",datatype[i],".\nNumber of byte(s) used :" ,sys.getsizeof(datatype[i]),"\nRange variable
            length","\n")
```

4. The below output should be displayed on the terminal.

```
Terminal                                                                    ⌐ ˧
                                                                            L ⌐
Data type is: int .
Number of byte(s) used : 52
Range -9223372036854775808 to 9223372036854775807

Data type is: float .
Number of byte(s) used : 54
Range -1.7976931348623157e+308 to 1.7976931348623157e+308

Data type is: complex .
Number of byte(s) used : 56
Range (-1.7976931348623157e+308-1.7976931348623157e+308j) to (1.7976931348623157e+308+1.7976931348623157e+308j)

Data type is: bool .
Number of byte(s) used : 53
Range False to True

Data type is: str .
Number of byte(s) used : 52
Range variable length

Data type is: bytes .
Number of byte(s) used : 54
Range variable length

Data type is: list .
Number of byte(s) used : 53
Range variable length

Data type is: tuple .
Number of byte(s) used : 54
Range variable length

Data type is: set .
Number of byte(s) used : 52
Range variable length

Data type is: dict .
Number of byte(s) used : 53
Range variable length
```