1. Consider the following Python program.

```python
a = 7 / 2
b = "football"
c = "3" + "5" + "1"
d = b * 3
e = int(3.5)
f = str(4**2)
```

(a) What is the data type of the variable `a`? float  
(b) What is the data type of the variable `b`? string  
(c) What is the data type of the variable `c`? string  
(d) What is the data type of the variable `d`? string  
(e) What is the data type of the variable `e`? int  
(f) What is the data type of the variable `f`? string

2. Consider the following Python program.

```python
a = 17
b = 5
c = 4
d = 2
print (a % b)
print (a // b)
print (b + c ** d)
```

(a) What is the output of line 5? 2  
(b) What is the output of line 6? 3  
(c) What is the output of line 7? 21
3. What is the output of line 2?

```python
x = "super bowl 54"
print(x[6])
```

b

4. What is the output of line 2?

```python
x = "football"
print(x[2:5])
```

otb

5. What is the output of line 2?

```python
x = "championship"
print(x[8:])
```

ship

6. What is the output of line 2?

```python
x = "champion"
print(x[::2])
```

capo

7. What is the output of line 2?

```python
x = "game on"
print(x[::-1])
```

no emag

8. What is the output of line 2?

```python
x = "San Francisco 49ers"
print(x[-5:-3])
```

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9. Explain the difference between an explicit type conversion and an implicit type conversion.
   An explicit type conversion is manually performed by the user/programmer to convert a data type.
   An implicit type conversion is automatically performed by the Python interpreter to convert a data type.