15th April 2021

Previous Day

- how to print the type of the variable
- how to do operations
- MCQs

Python Basic Program

Lecture Flow

- int to string, string to int
- int to float, float to int
- int to bool, bool to int
- float to string, string to float
- string to boolean, bool to string

Topics and Explanation

1. learned about variables
2. 4 basic data types: integer/number, string/text, float/decimal, boolean/true and false
    a. integer:int
    b. float:float
    c. boolean:bool
    d. string:str
3. print()
    a. end="" with print
    b. comma with print
    c. escape characters: \n (enter) and \t (tab)
4. type()
5. various types of conversion
    a. int to string, string to int
    b. int to float, float to int
    c. int to boolean, boolean to int
    d. float to string, string to float

Program

```
54   pr = 5
55   print(pr, type(pr))
56   pr = "My Name is Priyesh"
57   print(pr, type(pr))
58   pr = "523042434"
59   print(pr, type(pr))
60   pr = 12.3452
61   print(pr, type(pr))
62   pr = True
63   print(pr, type(pr))
64   pr = False
65   print(pr, type(pr))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
5 <class 'int'>
My Name is Priyesh <class 'str'>
523042434 <class 'str'>
12.3452 <class 'float'>
True <class 'bool'>
False <class 'bool'>
~/RichBiodegradableLicenses$
```

1. int to string, string to int

    Program

```
69    pr = 5
70    print(pr, type(pr))
71    pr = str(pr)
72    print(pr, type(pr))
73    print()
```

    Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
5 <class 'int'>
5 <class 'str'>
~/RichBiodegradableLicenses$
```

    Program

```
74    pr = "2134942034"
75    print(pr, type(pr))
76    pr = int(pr)
77    print(pr, type(pr))
```

    Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
2134942034 <class 'str'>
2134942034 <class 'int'>
~/RichBiodegradableLicenses$
```

There is the error case when converting string to integer and the string does not contain any number it won't be able to convert and throws error like the one given in below.

Program

```
79    err = "My Name is Priyesh 123"
80    print(err, type(err))
81    err = int(err)
82    print(err, type(err))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
My Name is Priyesh 123 <class 'str'>
Traceback (most recent call last):
  File "lecture09_notes.py", line 81, in <module>
    err = int(err)
ValueError: invalid literal for int() with base 10: 'My Name is Priyesh 123'
~/RichBiodegradableLicenses$
```

2. int to float, float to int

In this the when converting int to float int 5 becomes 5.0 in output after converting to float.

Program

```
86    pr = 5
87    print(pr, type(pr))
88    pr = float(pr)
89    print(pr, type(pr))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
5 <class 'int'>
5.0 <class 'float'>
~/RichBiodegradableLicenses$
```

Program

```
91   pr = 5.9234
92   print(pr, type(pr))
93   pr = int(pr)
94   print(pr, type(pr))
```

When converting float to int the number 5.9234 becomes 5 as output because when converting float to int it only takes integer part and return as output.

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
5.9234 <class 'float'>
5 <class 'int'>
~/RichBiodegradableLicenses$
```

3. int to bool, bool to int

Program

```
97   pr = 5
98   print(pr, type(pr))
99   pr = bool(pr)
100  print(pr, type(pr))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
5 <class 'int'>
True <class 'bool'>
~/RichBiodegradableLicenses$
```

Program

```
102    pr = False
103    print(pr, type(pr))
104    pr = int(pr)
105    print(pr, type(pr))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
False <class 'bool'>
0 <class 'int'>
~/RichBiodegradableLicenses$
```

4. float to string, string to float

Program

```
109    pr = 5.91234
110    print(pr, type(pr))
111    pr = str(pr)
112    print(pr, type(pr))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
5.91234 <class 'float'>
5.91234 <class 'str'>
~/RichBiodegradableLicenses$
```

Program

```
114    pr = "8.342442"
115    print(pr, type(pr))
116    pr = float(pr)
117    print(pr, type(pr))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
8.342442 <class 'str'>
8.342442 <class 'float'>
~/RichBiodegradableLicenses$
```

Error case is when there is more than one decimal point.

Program

```
120   err = "123.12.1234"
121   print(err, type(err))
122   err = float(err)
123   print(err, type(err))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
123.12.1234 <class 'str'>
Traceback (most recent call last):
  File "lecture09_notes.py", line 122, in <module>
    err = int(err)
ValueError: invalid literal for int() with base 10: '123.12.1234'
~/RichBiodegradableLicenses$
```

6. string to boolean, boolean to string

Program

```
141   pr = "True"
142   print(pr, type(pr))
143   pr = bool(pr)
144   print(pr, type(pr))
```

Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
True <class 'str'>
True <class 'bool'>
~/RichBiodegradableLicenses$
```

Program

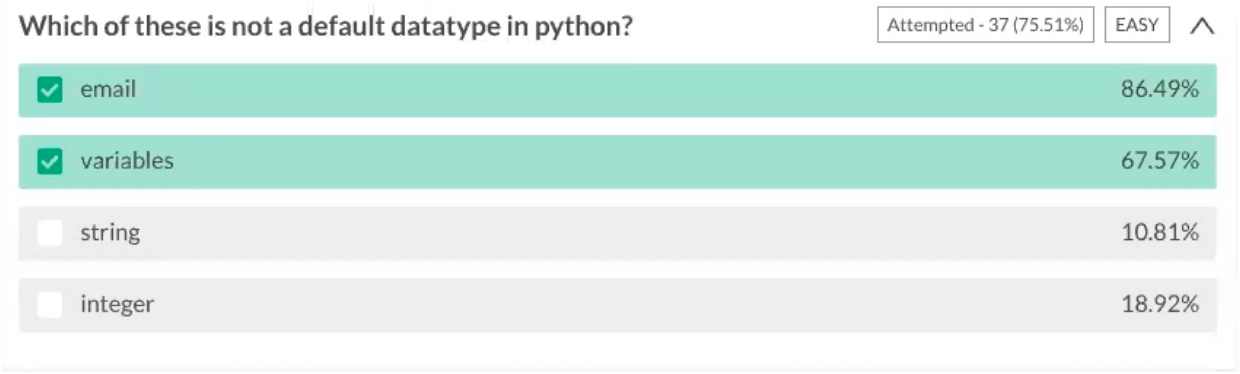
```
154   pr = ""
155   print(pr, type(pr))
156   pr = bool(pr)
157   print(pr, type(pr))
```

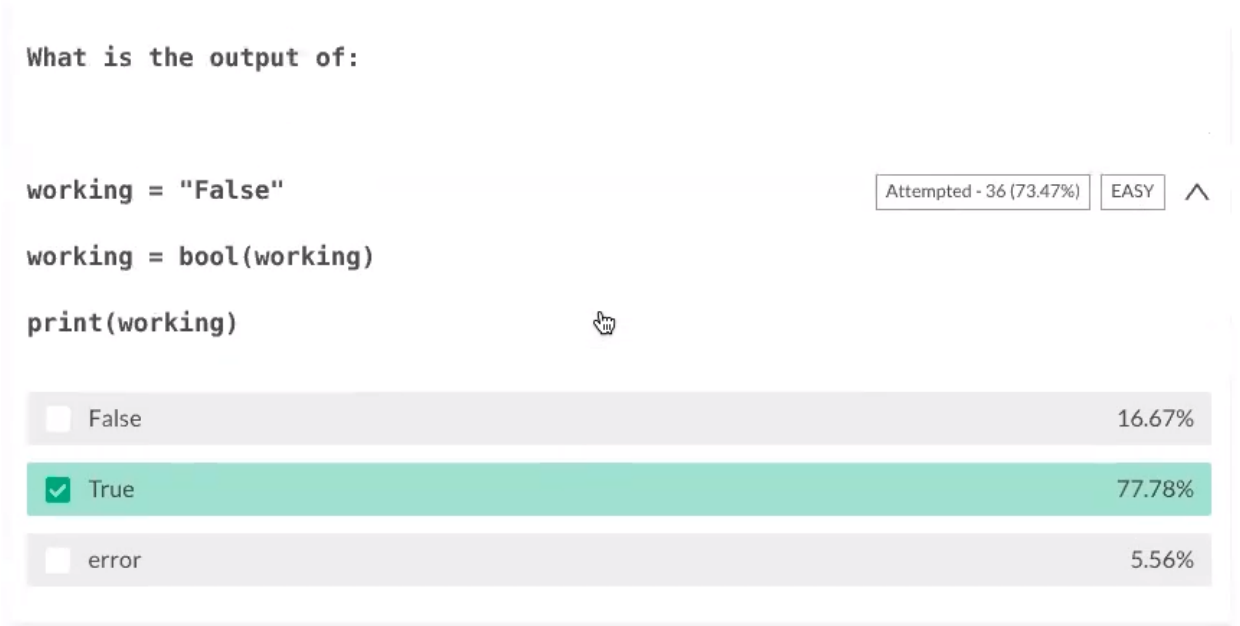
Output

```
~/RichBiodegradableLicenses$ python3 lecture09_notes.py
 <class 'str'>
False <class 'bool'>
~/RichBiodegradableLicenses$
```

All non empty string will give true, empty string will give false

MCQs





Given 2 numbers is a is divisible by b and b is divisible by a, which of the following are false?

Attempted - 38 (77.55%) EASY

- [ ] a == b 36.84%
- [x] a != b 68.42%
- [x] a < b 50%
- [x] a > b 50%

Who runs the python code to create machine language?

Attempted - 37 (75.51%) EASY

- [ ] User 16.22%
- [ ] Programmer 10.81%
- [x] Interpreter 72.97%
- [ ] Compiler 5.41%