Dictionaries

1. Consider the following dictionary:

```
color_code = {'red':   '#FF0000',
              'green': '#00FF00',
              'blue':  '#0000FF'}
```

What will be printed for the following expressions? If an expression generates an error write "error".

Expression	Value
`color_code['red']`	'#FF0000'
`color_code['black']`	error
`color_code['#00FF00']`	error
`color_code[2]`	error

2. Consider the following dictionary:

```
person = {}
person['name'] = 'Adalbert Gerald Soosai Raj'
person['age'] = 30
person['isAlive'] = True
person['phone'] = [
  {'type': 'office', 'number': '608-123-4567'},
  {'type': 'home', 'number': '608-987-6543'}
]
person['address'] = {'street': '1210 West Dayton Street',
'city': 'Madison', 'state': 'WI', 'zip': 53706}
```

What is the **type** (int, float, bool, str, list, dict) of the following expressions?

Expression	Type	Expression	Type
`person`	dict	`person['isAlive']`	bool
`person['name']`	str	`person['phone']`	list
`person['age']`	int	`person['address']`	dict

3. see lecture 21 notebook file

4. What is the output of the following code snippet?

```
capitals = {'India': 'New Delhi',
            'USA':   'Washington DC',
            'China': 'Beijing'}

for item in capitals:
   print(item)
```

India
USA
China

5. What is the output of the following code snippet?

```
word = "Happiness"
d = dict() #creates an empty dict
for letter in word:
   if letter in d:
      d[letter] += 1
   else:
      d[letter] = 1
print(d)
```

{'H':1, 'a':1, 'p':2, 'i':1, 'n':1, 'e':1, 's':2}

6. Consider the following dictionary:

```
d = {}
d[0] = 'zero'
d[1] = 'one'
d[2] = 'two'
```

What will be printed for the following expressions? If an expression generates an error write "error".

Expression	Value
`1 in d`	True
`'2' in d`	False
`2 not in d`	False
`'zero' in d`	False

in checks the keys, not the values