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”.

<table>
<thead>
<tr>
<th>Expression</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>color_code['red']</td>
<td></td>
</tr>
<tr>
<td>color_code['black']</td>
<td></td>
</tr>
<tr>
<td>color_code['#00FF00']</td>
<td></td>
</tr>
<tr>
<td>color_code[2]</td>
<td>error</td>
</tr>
</tbody>
</table>

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?

<table>
<thead>
<tr>
<th>Expression</th>
<th>Type</th>
<th>Expression</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>person</td>
<td></td>
<td>person['isAlive']</td>
<td></td>
</tr>
<tr>
<td>person['name']</td>
<td></td>
<td>person['phone']</td>
<td></td>
</tr>
<tr>
<td>person['age']</td>
<td></td>
<td>person['address']</td>
<td></td>
</tr>
</tbody>
</table>
3. For this code, what is printed if we replace `????` with the corresponding expression?

```python
airbnb = [
    {
        "name": "A",
        "rm_id": 837,
        "date": "10/20/2021",
        "reviews": []
    },
    {
        "name": "B",
        "rm_id": 389,
        "date": "01/04/2022",
        "reviews": ["","",""]
    },
    {
        "name": "C",
        "rm_id": 108,
        "date": "05/10/2021",
        "reviews": ["**","",""]
    },
    {
        "name": "D",
        "rm_id": 237,
        "date": "12/25/2021",
        "reviews": ["*"]
    },
    {
        "name": "E",
        "rm_id": 278,
        "reviews": ["***","**","***"]
    }
]

print(????)
```

<table>
<thead>
<tr>
<th><code>????</code></th>
<th><code>result</code></th>
<th><code>????</code></th>
<th><code>result</code></th>
</tr>
</thead>
<tbody>
<tr>
<td><code>airbnb[1]</code></td>
<td><code>len(airbnb[2][&quot;reviews&quot;])</code></td>
<td><code>airbnb[-1][&quot;name&quot;]</code></td>
<td><code>airbnb[4][&quot;reviews&quot;][1][0] + &quot;s&quot;</code></td>
</tr>
<tr>
<td><code>airbnb[&quot;name&quot;]]</code></td>
<td><code>airbnb[-6][&quot;reviews&quot;]</code></td>
<td><code>airbnb[1][&quot;date&quot;][2]</code></td>
<td><code>airbnb[2][&quot;reviews&quot;][index(airbnb[1][&quot;reviews&quot;][2])]</code></td>
</tr>
<tr>
<td><code>airbnb[1][&quot;date&quot;][6:]</code></td>
<td><code>airbnb[1][&quot;reviews&quot;][1:] + airbnb[2][&quot;reviews&quot;][1:]</code></td>
<td><code>airbnb[2][&quot;date&quot;][6:]</code></td>
<td><code>airbnb[1][&quot;reviews&quot;][1:] + airbnb[2][&quot;reviews&quot;][1:]</code></td>
</tr>
</tbody>
</table>

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

```python
result = []
for x in airbnb[1]:
    result.append(x)
result
```
5. What is the output of the following code snippet?

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

6. Consider the following dictionary:

```python
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”.

<table>
<thead>
<tr>
<th>Expression</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 in d</td>
<td></td>
</tr>
<tr>
<td>'2' in d</td>
<td></td>
</tr>
<tr>
<td>2 not in d</td>
<td></td>
</tr>
<tr>
<td>'zero' in d</td>
<td></td>
</tr>
</tbody>
</table>