Write all your answers legibly. If we cannot read your handwriting, your solution will not be graded. Notes and electronics are not allowed.

Name: ____________________________  UIN: ____________________________

Circle the correct answer(s) for the following statements.

1. Python sets are:
   (a) **Mutable**
   (b) Immutable
   (c) Ordered
   (d) **Unordered**
   (e) Indexable

2. Which of the following datatypes can be an element of a set?
   (a) **String**
   (b) **Integer**
   (c) List
   (d) Set
   (e) **Float**

3. What is the valid instruction to create an empty set `student_ids`?
   (a) `student_ids = {}`
   (b) `student_ids = new()`
   (c) `student_ids = set()` **Correct Answer**
   (d) `student_ids = {0}`
   (e) `student_ids = []`

4. You are writing a program to collect the social security numbers of students. Every entry must be unique. Which data structure would you use to store the social security numbers?
   (a) **A set**
   (b) A list

5. You are writing a program to collect the age of students. All the entries must be stored and indexed. Which data structure would you use to store the students’ age?
   (a) **A set**
   (b) A list
6. What are the expected outputs for this program?

Write your answers in the boxes below:

```python
majors = {"stat", "apms", "math"}
majors = {"stat", "apms", "math"}
minors = {"gist", "math", "inen"}

print (majors & minors)
print (majors | minors)
print (majors - minors)
print (majors ^ minors)
print (majors.issubset(majors))

minors.update(["tcmg", "biol"])
print (minors)
```

Line 4

```python
{'math'}
```

Line 5

```python
{'gist', 'apms', 'math', 'stat', 'inen'}
```

Line 6

```python
{'apms', 'stat'}
```

Line 7

```python
{'gist', 'inen', 'stat', 'apms'}
```

Line 8

```python
False
```

Line 11

```python
{'gist', 'inen', 'math', 'biol', 'tcmg'}
```