Assignment 2 - Python (Basic Programs)

SET A

1. Area of a Triangle
```python
base = 10
height = 5
area = 0.5 * base * height
print("Area:", area)
```

2. Swap Two Variables
```python
a = 5
b = 10
a, b = b, a
print(a, b)
```

3. Generate Random Number
```python
import random
print(random.randint(1, 100))
```

SET B

1. Positive, Negative or Zero
```python
num = 5
if num > 0:
  print("Positive")
elif num < 0:
  print("Negative")
else:
  print("Zero")
```

2. Odd or Even
```python
num = 8
if num % 2 == 0:
  print("Even")
else:
  print("Odd")
```

3. Prime Number
```python
num = 7
for i in range(2, num):
  if num % i == 0:
    print("Not Prime")
    break
else:
  print("Prime")
```

4. Armstrong Number
```python
num = 153
temp = num
sum = 0
digits = len(str(num))
while temp > 0:
  digit = temp % 10
  sum += digit ** digits
```

```python
  temp //= 10
if sum == num:
  print("Armstrong")
else:
  print("Not Armstrong")
```

5. Factorial of a Number

```python
num = 5
fact = 1
for i in range(1, num + 1):
  fact *= i
print("Factorial:", fact)
```