Lab 1:

WAP to implement random number generation using mid-square method .

Code:

```
seed_number = int(input("Please enter a four-digit number:\n "))
number = seed_number
seen_value = set()
counter = 0
while number not in seen_value:
        counter += 1
        seen_value.add(number)
        number = int(str(number * number).zfill(8)[2:6])  # adds zeros (0) at the beginning of the
                                #string, until it reaches the specified length.
        print(f"#{counter}: {number}")
print(f"We began with {seed_number} and" f" have repeated ourselves after {counter} steps"
        f" with {number}.")
```

Output: