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Question 1

```
import random

x = [random.randint(1, 50) for i in range(20)]

highest = max(x)

lowest = min(x)

average = sum(x) / len(x)


print("Random numbers:", x)

print("Highest number:", highest)

print("Lowest number:", lowest)

print("Average:", average)
```

```
Random numbers: [7, 49, 50, 41, 40, 6, 27, 8, 36, 16, 5, 4, 41, 31, 8, 11,
    14, 21, 49, 5]
Highest number: 50
Lowest number: 4
Average: 23.45
```

Question 2

```
from numpy import *
cards = ([])
sweets= ([])
stationery = ([])
toys = ([])

i = 0

while i < 5:
    inp = input(f"Enter 3 digit code for item {i+1}: ")
    if len(inp) == 3:
        if inp.startswith('0'):
            cards.append(1)
        elif inp.startswith('1'):
            sweets.append(1)
        elif inp.startswith('2'):
            stationery.append(1)
        elif inp.startswith('3'):
            toys.append(1)
        else:
            print("Invalid")
            continue
    else:
        print("Error enter 3 digit code !")
        continue
    i += 1

def sum(arr):
    sum = 0
```

```
    for i in arr:
        sum = sum + i
    return(sum)

a = sum(cards)
b = sum(sweets)
c = sum(stationery)
d = sum(toys)

print("cards:", a)
print("sweets:", b)
print("stationery:", c)
print("toys:", d)
```

```
Enter 3 digit code for item 1: 000
Enter 3 digit code for item 2: 111
Enter 3 digit code for item 3: 222
Enter 3 digit code for item 4: 333
Enter 3 digit code for item 5: 010
Number of cards: 2
Number of sweets: 1
Number of stationery: 1
Number of toys: 1
```

```
from numpy import *

arr = array([])

i = 0

while i < 5:

    x = (int(input("Enter Number in Array: ")))

    if x < 9999:

        arr = insert(arr, i, x)

        i += 1

    else:

        print("Please enter a number less than 9999")

arr.sort()

a = int(arr[1])

print("The second smallest Element in the array is",a)
```

```
Enter Number in Array: 1
Enter Number in Array: 3
Enter Number in Array: 2
Enter Number in Array: 4
Enter Number in Array: 5
The second smallest Element in the array is 2
```