

**ABBOTTABAD UNIVERSITY OF SCIENCE AND TECHNOLOGY ABBOTTABAD**

**BS-SE (3) C**

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**SUBMITTED TO : SIR . JAMAL ABDUL AHAD**

**LAB : 05**

**SUBJECT : DSA**

**ROLL NO : 12413**

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QUESTION 1

class Queue:

    def \_init\_(self):

        self.items = []

    def is\_empty(self):

        return len(self.items) == 0

    def enqueue(self, item):

        self.items.append(item)

    def dequeue(self):

        if not self.is\_empty():

            return self.items.pop(0)

        else:

            raise IndexError("Dequeue from an empty queue")

    def size(self):

        return len(self.items)

my\_queue = Queue()

print("Is the queue empty?", my\_queue.is\_empty())

my\_queue.enqueue(1)

my\_queue.enqueue(2)

my\_queue.enqueue(3)

print("Queue size:", my\_queue.size())

print("Dequeue:", my\_queue.dequeue())

print("Queue size after dequeue:", my\_queue.size())

QUESTION 2

class Queue:

    def \_init\_(self):

        self.items = []

    def is\_empty(self):

        return len(self.items) == 0

    def enqueue(self, item):

        self.items.append(item)

    def dequeue(self):

        if not self.is\_empty():

            return self.items.pop(0)

        else:

            raise IndexError("Dequeue from an empty queue")

    def size(self):

        return len(self.items)

my\_queue = Queue()

print("Is the queue empty?", my\_queue.is\_empty())

my\_queue.enqueue(1)

my\_queue.enqueue(2)

my\_queue.enqueue(3)

print("Queue size:", my\_queue.size())

print("Dequeue:", my\_queue.dequeue())