1. Write a program that creates two threads. Each Thread should pript its thread ID (TID) and a unique message to the console. Ensure that the output from both threads is interleaved.

```
package vinnu;

public class vinnu implements Runnable {



                private String message;
                public vinnu(String message) {
                this.message = message;
                }
                public void run() {
                     for (int i = 0; i < 5; i++) {

     System.out.println(Thread.currentThread().getId() + ": "
+ message);
                try {
                Thread.sleep(100); // Optional delay to
increase interleaving chances
                } catch (Exception e) {
                System.out.println(e);
                }
                }
                }



     }


package vinnu;

public class Threading {

     public static void main(String[] args) {
          // TODO Auto-generated method stub
          Thread thread1 = new Thread(new vinnu("Thread 1"));
          Thread thread2 = new Thread(new vinnu("Thread 2"));
          thread1.start();
          thread2.start();
     }


     }
```

Output:

16(TID): Thread 2

15(TID): Thread 1

16(TID): Thread 2

15(TID): Thread 1

16(TID): Thread 2

15(TID): Thread 1

16(TID): Thread 2

15(TID): Thread 1

15(TID): Thread 1 16(TID):

Thread 2

2. Write a program that creates multiple threads with different priorities. Observe how the operating system schedules threads with different priorities and explain the results.

```
package vinnu;

public class vinnu implements Runnable {


                public void run() {
                     for (int i = 0; i < 5; i++) {

     System.out.println(Thread.currentThread().getName() + ":
Priority "
                                          +
Thread.currentThread().getPriority() + ", Count: " + i);
                try {
```

```
                Thread.sleep(100); // Optional delay to
increase interleaving chances
                } catch (Exception e) {
                     e.printStackTrace();
                }
                }
                }



     }
```

```
package vinnu;

public class Threading {

     public static void main(String[] args) {
          // TODO Auto-generated method stub
          Thread Thread1 = new Thread(new vinnu(), "Low
Priority Thread");
          Thread Thread2 = new Thread(new vinnu(), "Normal
Priority Thread");
          Thread Thread3 = new Thread(new vinnu(), "High
Priority Thread");
          // Set thread priorities
          Thread1.setPriority(Thread.MIN_PRIORITY);
          Thread2.setPriority(Thread.NORM_PRIORITY);
          Thread3.setPriority(Thread.MAX_PRIORITY);
          Thread1.start();
          Thread2.start();
          Thread3.start();
          }


     }
```

Output:

```
Normal Priority Thread: Priority 5, Count: 0
Low Priority Thread: Priority 1, Count: 0
High Priority Thread: Priority 10, Count: 0
High Priority Thread: Priority 10, Count: 1
Low Priority Thread: Priority 1, Count: 1
Normal Priority Thread: Priority 5, Count: 1
High Priority Thread: Priority 10, Count: 2
Low Priority Thread: Priority 1, Count: 2
Normal Priority Thread: Priority 5, Count: 2
High Priority Thread: Priority 10, Count: 3
Normal Priority Thread: Priority 5, Count: 3
Low Priority Thread: Priority 1, Count: 3
```

3. Write a Java program that creates two threads and prints "Thread A" from the first thread and "Thread B" from the second thread. Make sure both threads run concurrently.

```
package vinnu;

public class vinnu implements Runnable {



                private String message;
                public vinnu(String message) {
                this.message = message;
                }
                public void run() {
                     for (int i = 0; i < 5; i++) {
                          System.out.println(message);
                try {
                Thread.sleep(100); // Optional delay to
increase interleaving chances
                } catch (Exception e) {
                System.out.println(e);
                }
                }
                }



     }


package vinnu;

public class Threading {

     public static void main(String[] args) {
          // TODO Auto-generated method stub
          Thread thread1 = new Thread(new vinnu("Thread 1"));
          Thread thread2 = new Thread(new vinnu("Thread 2"));
          thread1.start();
          thread2.start();
     }


     }
```

Output:

```
Thread 1
Thread 2
Thread 2
Thread 1
Thread 1
Thread 2
Thread 1
Thread 2
```