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Ex2: Write a program for Bit stuffing and De-stuffing in a bit stream.

Bit stuffing:

```
import java.util.*;
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int i,n;
        System.out.println("Enter size of your message");
        n=sc.nextInt();
        int a[]=new int[n];
        System.out.println("Enter data in bits");
        for(i=0; i<n; i++) {
            a[i]=sc.nextInt();
        }
        System.out.println("Bit stuffed");
        for(i=0; i<n; i+=3) {
            System.out.print("0");
            if((i+4)>=n){
                for(int j=i;j<n;j++){
                    System.out.print(a[i]);
                }}
            else{
```

```
      for(int j=i;j<i+3;j++)

      System.out.print(a[i]);

  } }

  System.out.print("0");

}}
```

Main.java   [⤢] [☀]   Run

```java
1  import java.util.*;
2  public class Main {
3      public static void main(String[] args) {
4          Scanner sc = new Scanner(System.in);
5          int i,n;
6          System.out.println("Enter size of your message");
7          n=sc.nextInt();
8          int a[]=new int[n];
9          System.out.println("Enter data in bits");
10         for(i=0; i<n; i++) {
11             a[i]=sc.nextInt();
12         }
13         System.out.println("Bit stuffed");
14         for(i=0; i<n; i+=3) {
15             System.out.print("0");
16             if((i+4)>=n){
17                 for(int j=i;j<n;j++){
18                  System.out.print(a[i]);
19                 } }
20             else{
21                 for(int j=i;j<i+3;j++)
22                 System.out.print(a[i]);
23             }
24         }     System.out.print("0");
25     }
26  }
```

```
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
Bit stuffed
011101110111011101
```

Bit destuffing:

```java
public class BitDeStuffing {
    public static void main(String[] args) {
        String bitStream = "011111101100110111";
        StringBuilder deStuffedBitStream = new StringBuilder();


        int count = 0;
        for (int i = 0; i < bitStream.length(); i++) {
            if (bitStream.charAt(i) == '1') {
                count++;
                deStuffedBitStream.append("1");
            } else {
                deStuffedBitStream.append("0");
                count = 0;
```

```
        }

        if (count == 5) {

            i++;

            count = 0;

        }

    }

    System.out.println("De-stuffed Bit Stream: " + deStuffedBitStream.toString());

    }

}
```

```
1  public class BitDeStuffing {
2      public static void main(String[] args) {
3          String bitStream = "011011111010";
4          StringBuilder deStuffedBitStream = new StringBuilder();
5
6          int count = 0;
7          for (int i = 0; i < bitStream.length(); i++) {
8              if (bitStream.charAt(i) == '1') {
9                  count++;
10                 deStuffedBitStream.append("1");
11             } else {
12                 deStuffedBitStream.append("0");
13                 count = 0;
14             }
15
16             if (count == 5) {
17                 i++;
18                 count = 0;
19             }
20         }
21         System.out.println("De-stuffed Bit Stream: " + deStuffedBitStream
               .toString());
22     }
23  }
24
```

```
java -cp /tmp/bRKLq4n1Bi BitDeStuffing
De-stuffed Bit Stream: 01101111110
```