Topic 1a

```java
public class q1 {
    public static void main(String[] args) {
        System.out.println("Name: Tonmoy");
        System.out.println("Address: Horogram Paschim Para, Rajpara, Rajshahi");
    }
}
```

Topic 1b

```java
import java.util.Scanner;

public class q2 {
    public static void main(String[] args) {
        int a = 0, b = 0;
        Scanner input = new Scanner(System.in);
        System.out.print("Enter 2 values : ");
        a = input.nextInt();
        b = input.nextInt();
        if (a > b) {
            System.out.println("The Bigger value is : " + a);
        } else {
            System.out.println("The Bigger Value is : " + b);
        }
        input.close();
    }
}
```

Topic 1c

```java
import java.util.Scanner;

public class q3 {
    public static void main(String[] args) {
        int[] ax = new int[10];
        int sum = 0;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter the array Values: ");
        for (int i = 0; i < 10; i++) {
            ax[i] = s.nextInt();
        }
        int min = ax[0], max = ax[1];
        for (int i = 0; i < 10; i++) {
            if (min > ax[i]) {
                min = ax[i];
            }
            if (ax[i] > max) {
                max = ax[i];
            }
```

```
            sum += ax[i];
        }
        System.out.println("The Maximum Value is : " + max);
        System.out.println("The Minimum Value is " + min);
        System.out.println("The Average value is " + sum / 10);
        s.close();
    }
}
```

```
package q1;
```

Topic 2a

```
public class q1 {
    public static void main(String[] args) {
        System.out.println("Hello world Original");
        hello();
        hello2();
        hello3();
    }

    public static void hello() {
        System.out.println("Hello World in public method within class");
    }

    private static void hello2() {
        System.out.println("Hello World in private method within class");
    }

    protected static void hello3() {
        System.out.println("Hello World in protected method within class");
    }

    static void hello4() {
        System.out.println("Hello World in default method within class");
    }
}
```

```
package q1;

public class q1Two {
    public static void main(String[] args) {
        System.out.println("Hello World from another class within package");
        q1.hello();
        // The method hello2() from the type q1 is not visible
        // q1.hello2();
```

Topic 2b

```
        q1.hello3();
        q1.hello4();
    }
}
```

```
package q2;                                                    Topic 2c

import q1.*;

public class q2 extends q1 {
    public static void main(String[] args) {
        System.out.println("Hello from subclass outside the package");
        q2.hello();
        // The method hello2() from the type q1 is not visible
        // q2.hello2();
        q2.hello3();
        // The method hello4() from the type q1 is not visible
        // q2.hello4();
    }
}

class q21 {
    public static void main(String[] args) {
        q1.hello();
        // The method hello2() from the type q1 is not visible
        // q1.hello2();
        // The method hello3() from the type q1 is not visible
        // q1.hello3();
        // The method hello4() from the type q1 is not visible
        // q1.hello4();
    }
}
```

```
public class solve {
    private static void add(int x, int y) {
        int sum = x + y;                                       Topic 3
        System.out.println("The sum is " + sum);
    }

    public static void main(String[] args) {
        add(12, 13);
    }
}
```

```java
class solve2 {
    // The method add(int, int) is undefined for the type solve2
    public static void main(String[] args) {
        // add(12, 13);
    }
}


public class solve {
    public static void add(int x, int y) {
        int sum = x + y;                                        Topic 4
        System.out.println("The sum is " + sum);
    }

    public void add2(int x, int y) {
        int sum = x + y;
        System.out.println("The sum is " + sum);
    }

    public static void main(String[] args) {
        // Cannot make a static reference to the non-static method add2(int, int)
from
        // the type solve
        // add2(12, 13);
        add(12, 13);
    }
}



public class solve {
    public static void main(String[] args) {
        String h = "Computer", H = "Science";                           Topic 5
        System.out.println("The 2 index is " + h.charAt(2));
        System.out.println("the output is " + h.compareTo(H));
        if (h.compareTo(H) < 0) {
            System.out.println("lexicographically less than the other string ");
        }
        System.out.println(h.concat(H));
        if (h.equals(H)) {
            System.out.println("the strings are equal");
        } else {
            System.out.println("the strings are not equal");
        }
        if (h.isEmpty()) {
```

```
            System.out.println("the string is empty");
        } else {
            System.out.println("The string is not empty ");
        }
        System.out.println("The Length of The String : " + h.length());
        System.out.println("Replaced r with R : " + h.replace('r', 'R'));
        System.out.println("the substring is : " + h.substring(0, 3));
        System.out.println("The Uppercase is : " + h.toUpperCase());
        System.out.println("The Lowercase is : " + h.toLowerCase());
        System.out.println("The toString is : " + h.toString());
        System.out.println("The trimmed string is " + h.trim());
    }
}
```

Topic 6

```
import java.util.Arrays;

public class solve {
    public static int[] Initarray() {
        return new int[] { 5, 4, 3, 2, 1, 7, 6, 9 };
    }

    public static int[] sortedArray(int[] arr) {
        Arrays.sort(arr);
        return arr;
    }

    public static void PrintArray(int[] arr) {
        for (int i : arr) {
            System.out.print(i + " ");
        }
    }

    public static void main(String[] args) {
        int[] h = Initarray();
        System.out.println("Before Sorting : ");
        PrintArray(h);
        int[] m = sortedArray(h);
        System.out.println("\nAfter Sorting : ");
        PrintArray(m);
        System.out.print("\n");
    }
}
```

```java
import java.util.Arrays;

public class solve {                                                    Topic 7
    public static int FindBig(int... ax) {
        int max = ax[2];
        int a = 0;
        for (int i = 0; i < a + 4; i++) {
            // System.out.print(ax[i] + " ");
            if (ax[i] > max)
                max = ax[i];
        }
        return max;
    }

    public static void main(String[] args) {
        int[] a = { 2, 3, 7, 1, 4, 9, 7 };
        System.out.println(Arrays.toString(a));
        System.out.println("The Big Value of First four numbers of the array is :
" + FindBig(a));
    }
}
```

```java
import java.util.ArrayList;

public class solve {
    public static void main(String[] args) {
        ArrayList<Integer> ax = new ArrayList<>();          Topic 8
        ax.add(10);
        ax.add(50);
        ax.add(70);
        ax.add(30);
        System.out.println(ax);
        ax.add(0, 60);
        System.out.println(ax);
        System.out.println(ax.get(1));
        ax.remove(2);
        System.out.println(ax);
        ax.remove(Integer.valueOf(10));
        System.out.println(ax);
        ax.sort(null);
        for (int i : ax)
            System.out.print(i + " ");
        System.out.print("\n");
        ax.clear();}}
```