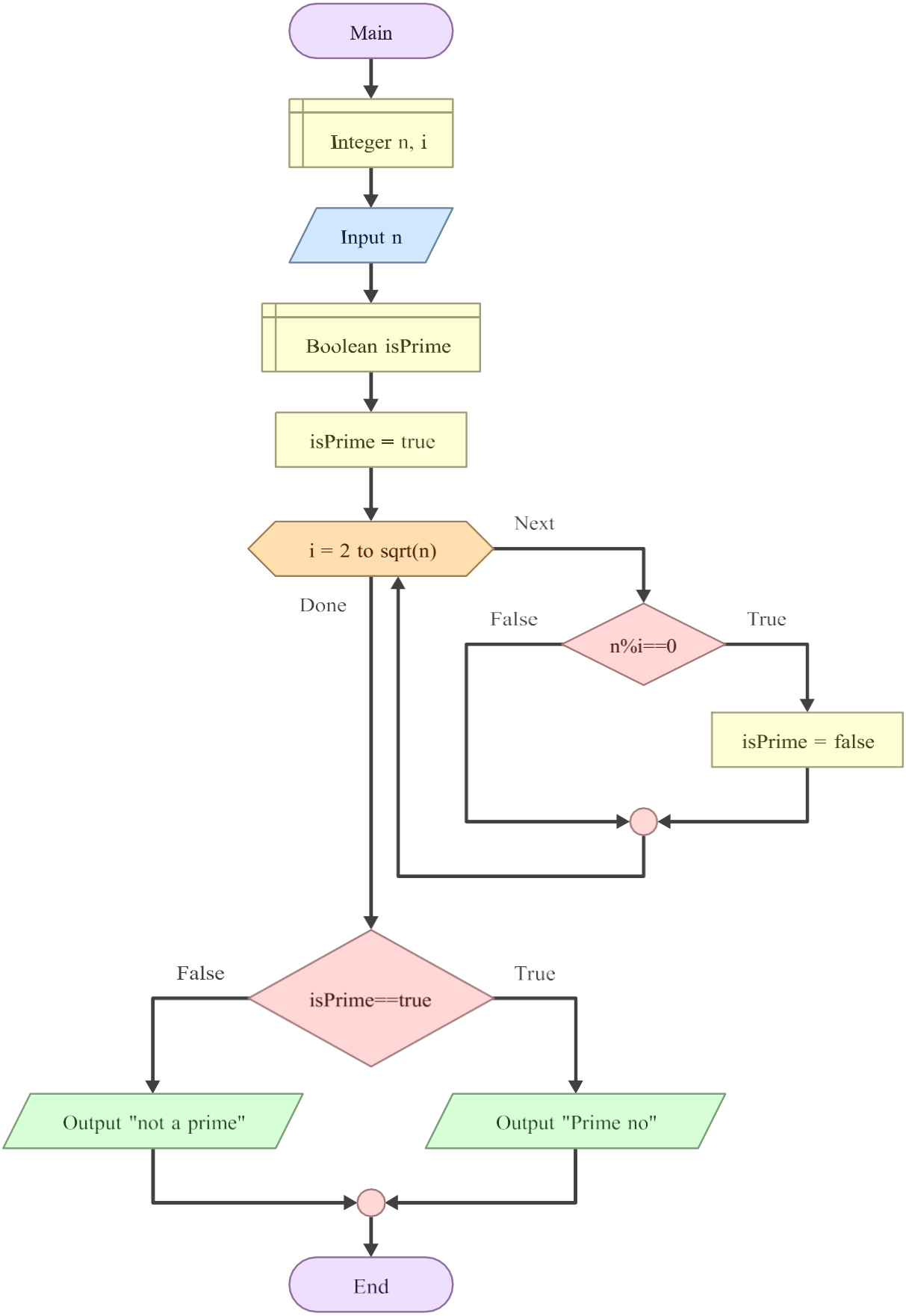
Assignments:

1. Draw a flow chart with help of flowgarithm to print if a given no is prime or not.
2. Read n numbers and print them
3. Sort the given array of numbers and print in both ascending order and descending order
4. Find the given number is available from array of numbers and it’s position
5. Remove the duplicate number from the array
6. Read the first character of the given string
7. next() vs nextLine()
8. Convert String to character array and print them
9. Find the frequency of each character in the given string

1. Draw a flow chart with help of flowgarithm to print if a given no is prime or not.

Solution:



2. Read n numbers and print them

Solution:

```
package basics;
import java.util.Scanner;

public class ReadAndPrintNumbers {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);

      System.out.print("Enter the number of elements: ");
      int n = scanner.nextInt();

      int[] numbers = new int[n];

      for (int i = 0; i < n; i++) {
         System.out.print("Enter number " + (i + 1) + ": ");
         numbers[i] = scanner.nextInt();
      }

      System.out.println("You entered:");
      for (int i = 0; i < n; i++) {
         System.out.println(numbers[i]);
      }

      scanner.close();
   }
}
```

3. Sort the given array of numbers and print in both ascending order and descending order

Solution:

```
package basics;
import java.util.Arrays;
import java.util.Scanner;

public class SortArray {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);

      // Read number of elements
      System.out.print("Enter the number of elements: ");
      int n = scanner.nextInt();

      int[] arr = new int[n];

      // Read array elements
      for (int i = 0; i < n; i++) {
         System.out.print("Enter number " + (i + 1) + ": ");
         arr[i] = scanner.nextInt();
      }

      // Sort in ascending order
      Arrays.sort(arr);

      // Print in ascending order
      System.out.println("Array in Ascending Order:");
      for (int num : arr) {
         System.out.print(num + " ");
      }

      System.out.println();
```

```
        // Print in descending order
        System.out.println("Array in Descending Order:");
        for (int i = n - 1; i >= 0; i--) {
            System.out.print(arr[i] + " ");
        }

        scanner.close();
    }
}
```

4.Find the given number is available from array of numbers and it's position

Solution:

```
package basics;
import java.util.*;
public class Main {
   public static void main(String[] args) {
      int[] arr = {3, 7, 8, 12, 4, 15};
      int num = 12;
      int position = findNumber(arr, num);

      if (position != -1) {
         System.out.println("Number " + num + " is found at position " +
position);
      } else {
         System.out.println("Number " + num + " is not found in the array.");
      }
   }

   public static int findNumber(int[] arr, int num) {
      for (int i = 0; i < arr.length; i++) {
         if (arr[i] == num) {
            return i;  // Return the index if the number is found
         }
      }
      return -1;  // Return -1 if the number is not found
   }
}
```

4. Remove the duplicate number from the array

Solution:

```
package basics;
import java.util.*;

public class Main {
   public static void main(String[] args) {
      int[] arr = {3, 7, 8, 3, 12, 7, 15};
      Set<Integer> unique = new LinkedHashSet<>();

      for (int num : arr) {
         unique.add(num);
      }

      // Convert set back to array
      Integer[] result = unique.toArray(new Integer[0]);
      System.out.println("Array after removing duplicates: " +
Arrays.toString(result));
   }
}
```

5. Read the first character of the given string

Solution:

```
package basics;
public class Main {
   public static void main(String[] args) {
      String str = "Hello";
      if (!str.isEmpty()) {
         char firstChar = str.charAt(0);
         System.out.println("First character: " + firstChar);
      } else {
         System.out.println("String is empty.");
      }
   }
}
```

6. next() vs nextLine()

Solution:

Feature	next()	nextLine()
What it reads	Only **one word** (up to a space)	Reads the **entire line** (till Enter)
Stops at	Space, tab, or newline	Only after Enter (newline \n)
Example Input	"Hello World" → reads Hello only	"Hello World" → reads Hello World
Leftover Issue	Leaves the newline character behind	Consumes the newline character too

```
package basics;
import java.util.*;
public class Example {
	//next() vs nextLine()
		 public static void inputMethodOfString() {
		Scanner sc = new Scanner(System.in);
		System.out.print("Enter with next(): ");
		String word = sc.next();
		System.out.println("Using next(): " + word);
		sc.nextLine();
		System.out.print("Enter with nextLine(): ");
		String line = sc.nextLine();
		System.out.println("Using nextLine(): " + line);
		 }
	public static void main(String[] args) {
		 //next() vs nextLine()
		 inputMethodOfString();
	}}
```

7. Convert String to character array and print them

Solution:

```
package basics;
import java.util.*;
public class Example {
//Convert String to character array and print them
	public static void charArray(String str) {
		char arr[]=new char[str.length()];
		int j=0;
		for(int i=0;i<str.length();i++) {
			if(str.charAt(i)!=' ') {
				arr[j]=str.charAt(i);
				j++;
			}
		}
		for(int i=0;i<j;i++) {
			System.out.print(arr[i]+" ");
		}
		System.out.println();
	}
public static void main(String[] args) {
		//Convert String to character array and print them
		String str1 = "hello world";
		charArray(str1);
	}
}
```

8. Find the frequency of each character in the given string

Solution:

```
package basics;
import java.util.*;
public class Example {
//Find the frequency of each character in the given string
	public static void charFrequency(String str) {
		int freq[]=new int[256];
		for(int i=0;i<str.length();i++) {
			if(str.charAt(i)!=' ') {
				freq[str.charAt(i)]++;
			}
		}
		for(int i=0;i<freq.length;i++) {
			if(freq[i]>0) {
				System.out.println((char) i+" "+freq[i]);
			}
		}
	}
public static void main(String[] args) {
		//Find the frequency of each character in the given string
		String str2="i am rohan kumar";
		charFrequency(str2);
	}
}
```