



# JAVA PROGRAMS

Given by Akshay Sir

SASWAT KUMAR PRADHAN  
8328841403  
HECA65

Sources  
JDK 8.0\_311  
EditPlus  
CMD in Windows

# **SET - I**

- Write a program to check whether the given number is Even or odd.
- Write a program to print even numbers from m to n.
- Write a program to print odd numbers from m to n.
- Write a program to print natural numbers from m to n.
- Write a program to print even numbers between m and n.
- Write a program to print odd numbers between m and n.
- Write a program to print natural numbers between m and n.
- Write a program to count both even and odd numbers from m to n.
- Write a program to count numbers between m and n which are divisible by 3 and 7.
- Write a program to print smallest of two numbers.
- Write a program to print largest of two numbers.
- Write a program to check whether given alphabet is vowel or not.
- Write a program to print alphabets.

**NOTE - Click on the question, it will redirect to the answer.**

# **SET-2**

- Write a program to count the digits of a number.
- write a program to print every digit of a given number in reverse order.
- Write a program to print the digital sum of a number.
- write a program to print the digital product of a number.
- Write a program to check whether the digital sum and product is equal or not (SPY NUMBER).
- write a program to reverse a number.
- Write a program to print sum of digital number at even places.
- Write a program to print sum of digital numbers at odd places.
- write a program to print product of digital number at even places.
- Write a program to print product of digital numbers at odd places.
- Write a program to print factorial of number.
- Write a program to check whether the given number is perfect number or not.
- write a program to check perfect square or not.
- write a program to print  $x^n$ .

**NOTE - Click on the question, it will redirect to the answer.**

# **SET-3**

- Write a program for Armstrong number.
- Write a program to check whether number is neon or not.
- Write a program to check for strong number.
- Write a program to check for leap year.
- Write a program to check for sunny number.
- Write a program to print Fibonacci series.
- Write a program to print perfect numbers from m to n.
- Write a program to check whether given number is prime or not.
- Write a program to print prime numbers from m to n.
- Write a program to print perfect squares between m and n.
- Write a program to print palindrome numbers between m and n.
- Write a program to print Strong numbers between m and n.
- Write a program to print Armstrong numbers between m and n.

**NOTE - Click on the question, it will redirect to the answer.**

# SET-4

•	*****	•	*****	•	* * *	•	12345	•	01010
	*****		****		* *		67891		10101
	*****		***		*		23456		01010
	*****		**		*		78912		10101
	*****		*		*		34567		01010
•	* * * * *	•	*	•	*****	•	a	•	0
	* * * * *		**		*****		ab		101
	* * * * *		***		*****		abc		01010
	* * * * *		****		***		abcd		1010101
	* * * * *		*****		*		abcde		010101010
•	* * * * *	•	*****	•	0 * 0 * 0	•	a	•	1
			*@***		0 * 0 * 0		bc		4 9
	* * * * *		*****		0 * 0 * 0		cde		16 25 36
			*****		0 * 0 * 0		defg		49 64 81 100
	* * * * *		***!*		0 * 0 * 0		efghi		
•	* * * * *	•	#****	•	AAAAA	•	1	•	*
			*#***		11111		ab		***
	* * * * *		**#**		BBBBB		123		*****
			***#*		22222		abcd		***
	* * * * *		****#		CCCCC				*
•	*								
	**	•	*****	•	abcd	•	a		
	***		* * *		1234		b1		
	****		* * *		efgh		c2d		
	*****		*		5678		e3f4		
•	*****	•	*****	•	A1111	•	1		
	****		* * *		1B 1		32		
	***		* * *		1 C 1		654		
	***		* * *		1 C1		10987		
	**		*****		1111E				
*									

**NOTE - Click on the question, it will redirect to the answer.**

# ARRAYS

- Java program to print the elements of an array.
- Java program to print the sum of all the elements of the array.
- Java program to print the number of elements present in an array.
- Java program to print the elements of an array in reverse order.
- Java Program to copy all the elements of one array into another array.
- Java program to merge all the elements of two arrays.
- Java program to print the elements of an array present in even position.
- Java program to print the elements of an array present in odd position.
- Java program to sort the elements of an array in ascending order.
- Java program to sort the elements of an array in decending order.
- Java program to print the largest element in the array.
- Java program to print the smallest element in an array
- Java program to find the 3rd largest number in an array.
- Java program to find the 2nd largest number in an array.
- Java program to find the 2nd smallest number in an array.
- Java program to find smallest number in an array.
- Java program to left rotate the elements of an array
- Java program to right rotate the elements of an array.
- Java program to find frequency of each element in the array.
- Java program to print the duplicate elements of an array.
- Java program to remove duplicates from an array.

**NOTE - Click on the question, it will redirect to the answer.**

# STRINGS

- Program to count the number of characters in String.
- Program to count the number of words in the String.
- Program to count total number of vowels and consonants in a String.
- Program to remove all the white spaces in a String.
- Program to remove all the vowels from the string.
- Program to replace the spaces in String with some specific character.
- Program to find the reverse of the String.
- Program to determine whether string is palindrome or not.
- Program to determine whether two Strings are anagram.
- Program to find minimum and maximum occurring character in a String.
- Write a program to find the sum of numbers in an ALPHA NUMERIC STRING?
- Write a program to count number of LOWERCASE, UPPERCASE, SPECIAL SYMBOLS and DIGITAL NUMBERS.
- write a program to convert UPPER CASE TO LOWER CASE?
- Write a program to convert LOWER CASE TO UPPER CASE?
- Program to find the duplicate words in a string
- Program to print smallest and biggest possible palindrome word in a given String.
- Reverse String in Java Word by Word.

**NOTE - Click on the question, it will redirect to the answer.**

# **ANSWERS**

Write a program to check whether the given number is Even or odd.

The screenshot shows a Java application running in an IDE. The code editor displays the following Java program:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter a number : ");
8         int i=s.nextInt();
9         if (i%2==0)
10        {
11            System.out.println("This is an even number");
12        }
13        else
14        {
15            System.out.println("This is an odd number");
16        }
17    }
18 }
19

```

To the right of the code editor is a terminal window titled "Command Prompt". It shows the output of running the program:

```

C:\java>javac Set1.java
C:\java>java Set1
Enter a number :
23
This is an odd number
C:\java>

```

Write a program to print even numbers from m to n.

The screenshot shows a Java application running in an IDE. The code editor displays the following Java program:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\t to\t");
11        int b=sr.nextInt();
12        while(a<=b)
13        {
14            if(a%2==0)
15            {
16                System.out.println(a);
17            }
18            a++;
19        }
20    }
21 }
22

```

To the right of the code editor is a terminal window titled "Command Prompt". It shows the output of running the program:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from      5
      to      25
6
8
10
12
14
16
18
20
22
24
C:\java>

```

Write a program to print odd numbers from m to n.

The screenshot shows a Java IDE window titled "C:\Java\Set1.java - EditPlus". The code in the editor is:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\t to\t");
11        int b=sr.nextInt();
12        while(a<=b)
13        {
14            if(a%2==1)
15            {
16                System.out.println(a);
17            }
18            a++;
19        }
20    }
21 }

```

The status bar at the bottom of the IDE indicates "In 14 col 22 22 29 PC ANSI". To the right of the editor is a "Command Prompt" window showing the execution of the program:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from      5
      to      25
5
7
9
11
13
15
17
19
21
23
25
C:\java>

```

Write a program to print natural numbers from m to n.

The screenshot shows a Java IDE window titled "C:\Java\Set1.java - EditPlus". The code in the editor is:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\tto\t");
11        int b=sr.nextInt();
12        while(a<=b)
13        {
14            if(a>0)
15            {
16                System.out.println(a);
17            }
18            a++;
19        }
20    }
21 }

```

The status bar at the bottom of the IDE indicates "In 10 col 29 22 74 PC ANSI". To the right of the editor is a "Command Prompt" window showing the execution of the program:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from      -5
      to      5
1
2
3
4
5
C:\java>

```

Write a program to print even numbers between m and n.

The screenshot shows a Java IDE interface. On the left is a code editor with the following Java code:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\tto\t");
11        int b=sr.nextInt();
12        for(int i=a+1;i<b;i++)
13        {
14            if(i%2==0)
15            {
16                System.out.println(i);
17            }
18        }
19    }
20 }

```

On the right is a terminal window titled "Command Prompt" showing the output of the program:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from    10
              to    20
12
14
16
18
C:\java>

```

Write a program to print odd numbers between m and n.

The screenshot shows a Java IDE interface. On the left is a code editor with the following Java code:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\tto\t");
11        int b=sr.nextInt();
12        for(int i=a+1;i<b;i++)
13        {
14            if(i%2==1)
15            {
16                System.out.println(i);
17            }
18        }
19    }
20 }

```

On the right is a terminal window titled "Command Prompt" showing the output of the program:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from    11
              to    21
13
15
17
19
C:\java>

```

## Write a program to print natural numbers between m and n.

The screenshot shows a Java application running in a window titled "C:\Java\Set1.java - EditPlus". The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\tto\t");
11        int b=sr.nextInt();
12        for(int i=a+1;i<b;i++)
13        {
14            if(i>0)
15            {
16                System.out.println(i);
17            }
18        }
19    }
20 }

```

To the right of the editor is a terminal window titled "Command Prompt" with the following output:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from      -10
              to       10
1
2
3
4
5
6
7
8
9

```

## Write a program to count both even and odd numbers from m to n.

The screenshot shows a Java application running in a window titled "C:\Java\Set1.java - EditPlus". The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\tto\t");
11        int b=sr.nextInt();
12        int count1=0,count2=0;
13        for(int i=a;i<=b;i++)
14        {
15            if(i%2==0)
16            {
17                count1++;
18            }
19            else
20            {
21                count2++;
22            }
23        }
24        System.out.println("Total even numbers are : "+count1);
25        System.out.println("Total odd numbers are : "+count2);
26    }
27 }

```

To the right of the editor is a terminal window titled "Command Prompt" with the following output:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from      10
              to       20
Total even numbers are : 6
Total odd numbers are : 5

```

## Write a program to count numbers between m and n which are divisible by 3 and 7.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code editor contains the following Java code:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the limit of number");
8         System.out.print("\tfrom\t");
9         int a=sr.nextInt();
10        System.out.print("\tto\t");
11        int b=sr.nextInt();
12        int count1=0;
13        for(int i=a+1;i<b;i++)
14        {
15            if(i%3==0 && i%7==0)
16            {
17                count1++;
18            }
19        }
20        System.out.println("Total number which are divisible by 3 & 7 is : "+count1);
21    }
22 }
23

```

The terminal window shows the output of running the program:

```

C:\java>javac Set1.java
C:\java>java Set1
write the limit of number
      from   1
      to     50
Total number which are divisible by 3 & 7 is : 2
C:\java>

```

## Write a program to print smallest of two numbers.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code editor contains the following Java code:

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("Enter 1st number : ");
8         int a=sr.nextInt();
9         System.out.print("Enter 2nd number : ");
10        int b=sr.nextInt();
11        if(a<b)
12        {
13            System.out.println("Smallest of "+a+" and "+b+" is "+a);
14        }
15        else
16        {
17            System.out.println("Smallest of "+a+" and "+b+" is "+b);
18        }
19    }
20 }
21

```

The terminal window shows the output of running the program:

```

C:\java>javac Set1.java
C:\java>java Set1
Enter 1st number : 8
Enter 2nd number : 4
Smallest of 8 and 4 is 4
C:\java>

```

## Write a program to print largest of two numbers.

The screenshot shows a Java development environment. On the left, the code editor displays a Java file named Set1.java. The code reads two integers from the user and prints the larger one. On the right, a terminal window titled "Command Prompt" shows the execution of the program. It compiles the code with "javac Set1.java" and then runs it with "java Set1". The output shows the user entering the numbers 4 and 5, and the program correctly printing "Largest of 4 and 5 is 5".

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("Enter 1st number : ");
8         int a=sr.nextInt();
9         System.out.print("Enter 2nd number : ");
10        int b=sr.nextInt();
11        if(a>b)
12        {
13            System.out.println("Largest of "+a+" and "+b+" is "+a);
14        }
15        else
16        {
17            System.out.println("Largest of "+a+" and "+b+" is "+b);
18        }
19    }
20 }
21

```

## Write a program to check whether given alphabet is vowel or not.

The screenshot shows a Java development environment. On the left, the code editor displays a Java file named Set1.java. The code uses a switch statement to check if a given character is a vowel ('a', 'e', 'i', 'o', 'u' or 'A', 'E', 'I', 'O', 'U'). If it is, it prints "This alphabate is vowel"; otherwise, it prints "This alphabate is not vowel". On the right, a terminal window titled "Command Prompt" shows the execution of the program. It compiles the code with "javac Set1.java" and then runs it with "java Set1". The user enters the character 'U', and the program correctly prints "This alphabate is vowel".

```

1 import java.util.Scanner;
2 class Set1
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("Enter a alphabate : ");
8         char a=sr.next().charAt(0);
9         switch(a)
10        {
11            case 'a':
12            case 'e':
13            case 'i':
14            case 'o':
15            case 'u':
16            case 'A':
17            case 'E':
18            case 'I':
19            case 'O':
20            case 'U': System.out.println("This alphabate is vowel"); break;
21            default: System.out.println("This alphabate is not vowel"); break;
22        }
23    }
24 }
25

```

## Write a program to print alphabets.

The screenshot shows a Java development environment with a code editor and a terminal window. The code editor displays a Java program named Set1.java. The terminal window shows the execution of the program, outputting capital and small alphabets.

```
1 class Set1
2 {
3     public static void main(String[] args)
4     {
5         char i='A';
6         char j='a';
7         System.out.println("Capital alphabates are -----");
8         do
9         {
10            System.out.print(i+" ");
11            i++;
12        }
13        while (i<='Z');
14        System.out.println("\nSmall alphabates are -----");
15        do
16        {
17            System.out.print(j+" ");
18            j++;
19        }
20        while (j<='z');
21    }
22 }
23
```

Command Prompt output:

```
C:\java>javac Set1.java
C:\java>java Set1
Capital alphabates are -----
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Small alphabates are -----
a b c d e f g h i j k l m n o p q r s t u v w x y z
C:\java>
```

Write a program to count the digits of a number.

```

C:\Java\Set2.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int count=0;
10        while (num>0)
11        {
12            count++;
13            num/=10;
14        }
15        System.out.print("No. of digit : "+count);
16    }
17 }
18

```

For Help, press F1

In 17 col 2 18 00 PC ANSI

Command Prompt

```

C:\java>javac Set2.java
C:\java>java Set2
Enter a number : 123456
No. of digit : 6
C:\java>

```

write a program to print every digit of a given number in reverse order.

```

C:\Java\Set2.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         System.out.print("In reverse order : ");
10        while(num!=0)
11        {
12            int last=num%10;
13            System.out.print(last);
14            num=num/10;
15        }
16    }
17 }
18

```

For Help, press F1

In 9 col 49 18 00 PC ANSI

Command Prompt

```

C:\java>javac Set2.java
C:\java>java Set2
Enter a number : 4567
In reverse order : 7654
C:\java>

```

## Write a program to print the digital sum of a number.

The screenshot shows a Java IDE window titled "C:\Java\Set2.java - EditPlus". The code is as follows:

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=0;
10        int b=0;
11        System.out.print("Digital sum of it : ");
12        while(num!=0)
13        {
14            b=num%10;
15            num=num/10;
16            a+=b;
17        }
18        System.out.print(a);
19    }
20 }

```

Below the code, there is a command prompt window titled "Command Prompt" with the following output:

```

C:\java>javac Set2.java
C:\java>java Set2
Enter a number : 654
Digital sum of it : 15
C:\java>

```

## write a program to print the digital product of a number.

The screenshot shows a Java IDE window titled "C:\Java\Set2.java - EditPlus". The code is as follows:

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=1;
10        int b=0;
11        System.out.print("Digital product of it : ");
12        while(num!=0)
13        {
14            b=num%10;
15            a*=b;
16            num=num/10;
17        }
18        System.out.print(a);
19    }
20 }

```

Below the code, there is a command prompt window titled "Command Prompt" with the following output:

```

C:\java>javac Set2.java
C:\java>java Set2
Enter a number : 234
Digital product of it : 24
C:\java>

```

Write a program to check whether the digital sum and product is equal or not (SPY NUMBER).

The screenshot shows a Java code editor with the file `Set2.java` open. The code implements a `Set2` class with a `main` method. It uses a `Scanner` to read a number from the user. Then, it calculates the sum of digits (`a`) and the product of digits (`b`) in a loop until the number becomes zero. Finally, it compares `a` and `b` to determine if the number is a spy number.

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=1;
10        int b=0;
11        int c=0;
12        while(num!=0)
13        {
14            c=num%10;
15            a*=c;
16            b+=c;
17            num=num/10;
18        }
19        if(a==b)
20        {
21            System.out.print("This is a SPY NUMBER");
22        }
23        else
24        {
25            System.out.print("This is not a SPY NUMBER");
26        }
27    }
28 }

```

The right side of the interface shows a terminal window titled "Command Prompt" with the following output:

```

C:\java>javac Set2.java
C:\java>java Set2
Enter a number : 123
This is a SPY NUMBER
C:\java>

```

write a program to reverse a number.

The screenshot shows a Java code editor with the file `Set2.java` open. The code implements a `Set2` class with a `main` method. It reads a number from the user and then reverses it by repeatedly taking the last digit and adding it to a reversed number variable `rev`.

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int rev=0;
10        while (num>0)
11        {
12            int last=num%10;
13            rev=(rev*10)+last;
14            num/=10;
15        }
16        System.out.print("reverse number is : "+rev);
17    }
18 }

```

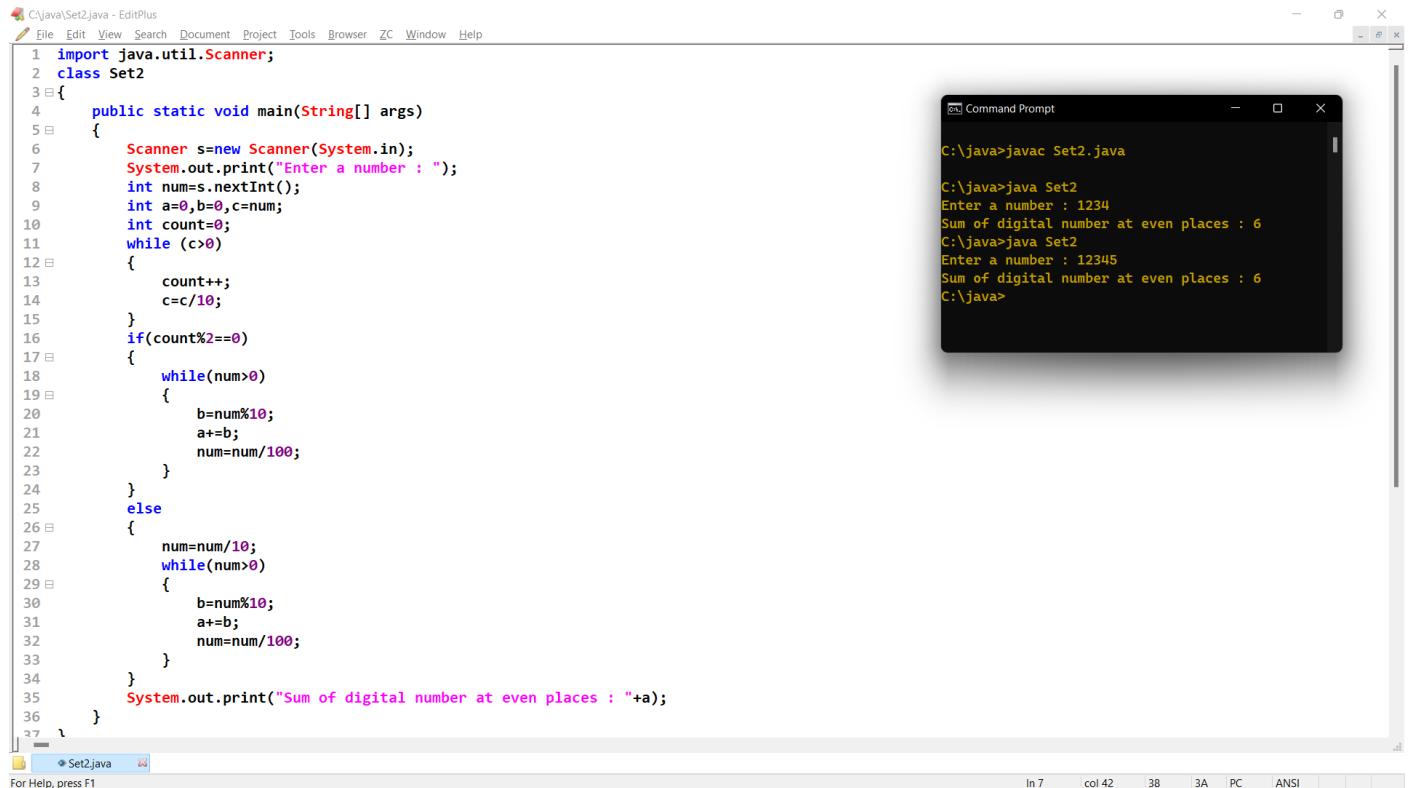
The right side of the interface shows a terminal window titled "Command Prompt - cmd" with the following output:

```

C:\java>javac Set2.java
C:\java>java Set2
Enter a number : 456
reverse number is : 654
C:\java>

```

## Write a program to print sum of digital number at even places.



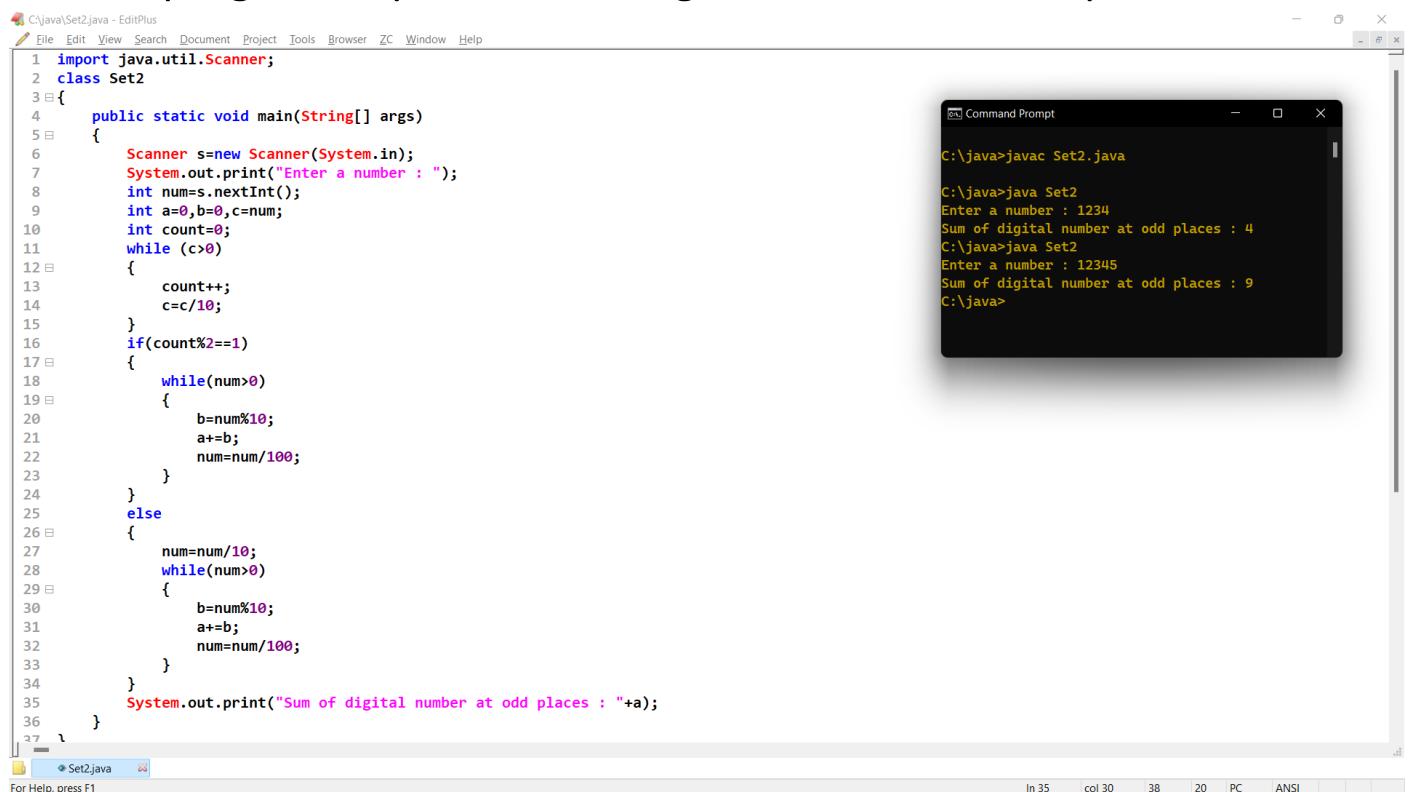
The screenshot shows a Java code editor with the file name C:\Java\Set2.java. The code reads a number from the user, then iterates through its digits. If the digit's position is even (0, 2, 4, ...), it adds the digit to a sum. Finally, it prints the sum. A command prompt window shows the execution of the code and its output for the input 1234.

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=0,b=0,c=num;
10        int count=0;
11        while (c>0)
12        {
13            count++;
14            c=c/10;
15        }
16        if(count%2==0)
17        {
18            while(num>0)
19            {
20                b=num%10;
21                a+=b;
22                num=num/100;
23            }
24        }
25        else
26        {
27            num=num/10;
28            while(num>0)
29            {
30                b=num%10;
31                a+=b;
32                num=num/100;
33            }
34        }
35        System.out.print("Sum of digital number at even places : "+a);
36    }
}

```

## Write a program to print sum of digital numbers at odd places.



The screenshot shows a Java code editor with the file name C:\Java\Set2.java. The code is similar to the previous one, but it adds digits to a sum if their positions are odd (1, 3, 5, ...). A command prompt window shows the execution of the code and its output for the input 1234.

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=0,b=0,c=num;
10        int count=0;
11        while (c>0)
12        {
13            count++;
14            c=c/10;
15        }
16        if(count%2==1)
17        {
18            while(num>0)
19            {
20                b=num%10;
21                a+=b;
22                num=num/100;
23            }
24        }
25        else
26        {
27            num=num/10;
28            while(num>0)
29            {
30                b=num%10;
31                a+=b;
32                num=num/100;
33            }
34        }
35        System.out.print("Sum of digital number at odd places : "+a);
36    }
}

```

write a program to print product of digital number at even places.

The screenshot shows a Java IDE window with the file 'Set2.java' open. The code reads a number from the user, initializes variables, and then iterates through the digits. It multiplies the digits at even positions and prints the result. A separate Command Prompt window shows the execution of 'javac Set2.java' followed by 'java Set2'. The output is 'Enter a number : 1234' and 'Product of digital number at even places : 8'.

```

C:\Java\Set2.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=1,b=0,c=num;
10        int count=0;
11        while (c>0)
12        {
13            count++;
14            c=c/10;
15        }
16        if(count%2==0)
17        {
18            while(num>0)
19            {
20                b=num%10;
21                a*=b;
22                num=num/100;
23            }
24        }
25        else
26        {
27            num=num/10;
28            while(num>0)
29            {
30                b=num%10;
31                a*=b;
32                num=num/100;
33            }
34        }
35        System.out.print("Product of digital number at even places : "+a);
36    }
}

```

For Help, press F1

In 9 col 16 38 2C PC ANSI

Write a program to print product of digital numbers at odd places.

The screenshot shows a Java IDE window with the file 'Set2.java' open. The code reads a number from the user, initializes variables, and then iterates through the digits. It multiplies the digits at odd positions and prints the result. A separate Command Prompt window shows the execution of 'javac Set2.java' followed by 'java Set2'. The output is 'Enter a number : 1234' and 'Product of digital number at odd places : 3'.

```

C:\Java\Set2.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=1,b=0,c=num;
10        int count=0;
11        while (c>0)
12        {
13            count++;
14            c=c/10;
15        }
16        if(count%2==1)
17        {
18            while(num>0)
19            {
20                b=num%10;
21                a*=b;
22                num=num/100;
23            }
24        }
25        else
26        {
27            num=num/10;
28            while(num>0)
29            {
30                b=num%10;
31                a*=b;
32                num=num/100;
33            }
34        }
35        System.out.print("Product of digital number at odd places : "+a);
36    }
}

```

For Help, press F1

In 35 col 59 38 20 PC ANSI

## Write a program to print factorial of number.

The screenshot shows a Java code editor with a file named Set2.java. The code prints the factorial of a user-specified number. To the right, a Command Prompt window shows the execution of the program, entering '5' and displaying the output 'Factorial of number : 120'.

```

C:\java\Set2.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number      : ");
8         int num=s.nextInt();
9         int a=1;
10        while (num>0)
11        {
12            a*=num;
13            num--;
14        }
15        System.out.print("Factorial of number : "+a);
16    }
17 }
18

```

```

Command Prompt
C:\java>javac Set2.java
C:\java>java Set2
Enter a number      : 5
Factorial of number : 120
C:\java>

```

## Write a program to check whether the given number is perfect number or not.

The screenshot shows a Java code editor with a file named Set2.java. The code checks if a user-specified number is a perfect number. To the right, a Command Prompt window shows the execution of the program, testing numbers 6, 9, and 28, and correctly identifying 6 and 28 as perfect numbers.

```

C:\java\Set2.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number      : ");
8         int num=s.nextInt();
9         int sum=0;
10        int i=1;
11        while (i<num)
12        {
13            if(num%i==0)
14            {
15                sum+=i;
16            }
17            i++;
18        }
19        if(sum==num)
20        {
21            System.out.println("This number is a perfect number.");
22        }
23        else
24        {
25            System.out.println("This number is not a perfect number.");
26        }
27    }
28 }
29

```

```

Command Prompt - cmd
C:\java>javac Set2.java
C:\java>java Set2
Enter a number      : 6
This number is a perfect number.

C:\java>java Set2
Enter a number      : 9
This number is not a perfect number.

C:\java>java Set2
Enter a number      : 28
This number is a perfect number.

C:\java>

```

write a program to check perfect square or not.

The screenshot shows a Java IDE window titled "C:\Java\Set2.java - EditPlus". The code is as follows:

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a number : ");
8         int num=s.nextInt();
9         int a=1;
10        int b=0;
11        while (a<num)
12        {
13            if(a*a==num)
14            {
15                b=1;
16            }
17            a++;
18        }
19        if(b==1)
20        {
21            System.out.println("This is a perfect square.");
22        }
23        else
24        {
25            System.out.println("This is not a perfect square.");
26        }
27    }
28 }

```

Below the code, there is a file icon labeled "Set2.java" and a status bar at the bottom.

To the right, a "Command Prompt" window shows the execution of the program:

```

C:\java>javac Set2.java
C:\java>java Set2
Enter a number : 23
This is not a perfect square.

C:\java>java Set2
Enter a number : 36
This is a perfect square.

C:\java>

```

write a program to print  $x^n$ .

The screenshot shows a Java IDE window titled "C:\Java\Set2.java - EditPlus". The code is as follows:

```

1 import java.util.Scanner;
2 class Set2
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("write the");
8         System.out.print("number\t");
9         int a=sr.nextInt();
10        System.out.print("power\t");
11        int b=sr.nextInt();
12        int c=a;
13        for(int i=2;i<=b;i++)
14        {
15            c*=a;
16        }
17        System.out.println("-----\nAnswer\t"+c);
18    }
19 }

```

Below the code, there is a file icon labeled "Set2.java" and a status bar at the bottom.

To the right, a "Command Prompt" window shows the execution of the program:

```

C:\java>javac Set2.java
C:\java>java Set2
write the
number 4
power 3
-----
Answer 64

C:\java>

```

## Write a program for Armstrong number.

The screenshot shows a Java IDE interface with the file `C:\Java\Set3.java` open. The code implements a program to check if a given number is an Armstrong number. It uses a scanner to read a number from the user, calculates the sum of its digits raised to the power of the number of digits, and prints whether it is an Armstrong number or not. Below the IDE is a Command Prompt window showing several executions of the program with different inputs.

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("write a number      :");
8         int a=sr.nextInt();
9         int count=0;
10        int sum=0;
11        int j=0;
12        for(int i=a;i>0;i/=10)
13        {
14            count++;
15        }
16        for(int i=a;i!=0;i/=10)
17        {
18            int k=1;
19            j=i%10;
20            for(int x=1;x<=count;x++)
21            {
22                k*=j;
23            }
24            sum+=k;
25        }
26        if(sum==a)
27        {
28            System.out.println("This is an armstrong number");
29        }
30        else
31        {
32            System.out.println("This is not an armstrong number");
33        }
34    }
35 }

```

Command Prompt Output:

```

C:\java>javac Set3.java
C:\java>java Set3
write a number      :153
This is a armstrong number

C:\java>java Set3
write a number      :1234
This is not a armstrong number

C:\java>java Set3
write a number      :1634
This is a armstrong number

C:\java>java Set3
write a number      :8202
This is not a armstrong number

C:\java>java Set3
write a number      :8208
This is a armstrong number

C:\java>

```

## Write a program to check wheather number is neon or not.

The screenshot shows a Java IDE interface with the file `C:\Java\Set3.java` open. The code implements a program to check if a given number is a Neon number. It reads a number from the user, calculates the sum of the squares of its digits, and compares it with the original number. If they are equal, it is a Neon number. Below the IDE is a Command Prompt window showing several executions of the program with different inputs.

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("write a number      :");
8         int num=sr.nextInt();
9         int square=num*num;
10        int sum=0;
11        int j=0;
12        for(int i=square;i!=0;i/=10)
13        {
14            j=i%10;
15            sum+=j;
16        }
17        if(sum==num)
18        {
19            System.out.println("This is a neon number");
20        }
21        else
22        {
23            System.out.println("This is not a neon number number");
24        }
25    }
26 }

```

Command Prompt Output:

```

C:\java>javac Set3.java
C:\java>java Set3
write a number      :9
This is a neon number

C:\java>java Set3
write a number      :4
This is not a neon number number

C:\java>java Set3
write a number      :67
This is not a neon number number

C:\java>java Set3
write a number      :45
This is not a neon number number

C:\java>java Set3
write a number      :1
This is a neon number

C:\java>

```

## Write a program to check for strong number.

The screenshot shows a Java IDE window with the file `C:\java\Set3_3.java` open. The code implements a program to determine if a given number is a strong number. It uses a Scanner to read input from the user, calculates the sum of factorials of digits, and compares it with the original number. If they are equal, it prints that the number is a strong number; otherwise, it prints that it is not. A separate Command Prompt window shows the execution of the program, where it asks for a number, receives 145, and correctly identifies it as a strong number.

```

1 import java.util.Scanner;
2 class Set3_3
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("Enter a number :");
8         int num=sr.nextInt();
9         int sum=0;
10        for(int i=num;i>0;i/=10)
11        {
12            int last=i%10;
13            int factorial=1;
14            for(int j=1;j<=last;j++)
15            {
16                factorial*=j;
17            }
18            sum+=factorial;
19        }
20        if(num==sum)
21        {
22            System.out.println("The number is a strong number");
23        }
24        else
25        {
26            System.out.println("The number is not a strong number");
27        }
28    }
29 }

```

## Write a program to check for leap year.

The screenshot shows a Java IDE window with the file `C:\java\trial2.java` open. The code implements a program to check if a given year is a leap year. It uses a Scanner to read a year from the user and checks if it is divisible by 400 or if it is divisible by 4 but not by 100. If either condition is true, it prints that the year is a leap year; otherwise, it prints that it is not. A separate Command Prompt window shows the execution of the program for various years (2000, 2020, 2100), correctly identifying 2000 and 2020 as leap years and 2100 as not a leap year.

```

1 import java.util.Scanner;
2 class trial2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter a year : ");
8         int year=s.nextInt();
9         if((year%4==0 && year%100!=0) || year%400==0)
10        {
11            System.out.println("This is a leap year");
12        }
13        else
14        {
15            System.out.println("This is not a leap year");
16        }
17    }
18 }
19

```

## Write a program to check for sunny number.

The screenshot shows a Java IDE window titled "C:\Java\Set3.java - EditPlus". The code is as follows:

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("write a number      :");
8         int num=sr.nextInt();
9         int square=num+1;
10        boolean flag=false;
11        for(int i=1;i<=square/2;i++)
12        {
13            if(i*i==square)
14            {
15                flag=true;
16            }
17        }
18        if(flag==true)
19        {
20            System.out.println("This is a sunny number");
21        }
22        else
23        {
24            System.out.println("This is not a sunny number");
25        }
26    }
27 }
28

```

Below the code, there are tabs for "Set2.java", "Set2\_8.java", "Set3.java", and "trial.java". The status bar at the bottom indicates "In 10 col 28 28 00 PC ANSI". To the right, a "Command Prompt" window shows the output of running the program:

```

C:\java>javac Set3.java
C:\java>java Set3
write a number      :15
This is a sunny number

C:\java>java Set3
write a number      :14
This is not a sunny number

C:\java>

```

## Write a program to print fibonacci series.

The screenshot shows a Java IDE window titled "C:\Java\Set3.java - EditPlus". The code is as follows:

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("Fibonacci Series :");
8         int f1=0;
9         int f2=1;
10        int f3;
11        for(int i=1;i<=30;i++)
12        {
13            System.out.print("\t"+f1);
14            f3=f1+f2;
15            f1=f2;
16            f2=f3;
17        }
18    }
19 }
20

```

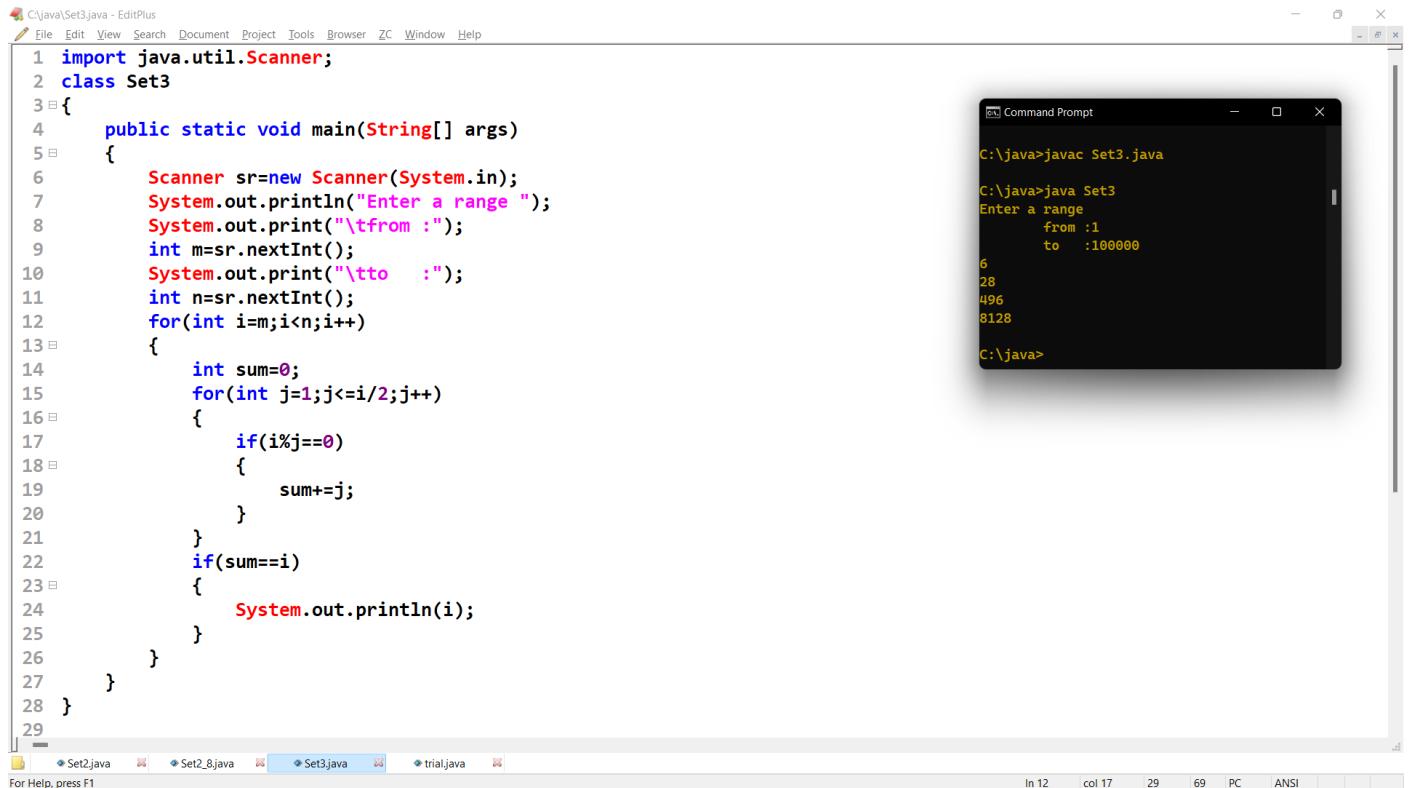
Below the code, there are tabs for "Set2.java", "Set2\_8.java", "Set3.java", and "trial.java". The status bar at the bottom indicates "In 13 col 33 20 22 PC ANSI". To the right, a "Command Prompt" window shows the output of running the program:

```

46368 75025 121393 196418 317811 514
229
C:\java>javac Set3.java
C:\java>java Set3
Fibonacci Series :      0      1      1
2      3      5      8      13      21
34      55      89      144      233      377
                                610      987      1597      2584      418
1      6765      10946      17711      28657      463
68      75025      121393      196418      317811      514
229
C:\java>

```

## Write a program to print perfect numbers from m to n.



The screenshot shows a Java IDE window with the following code:

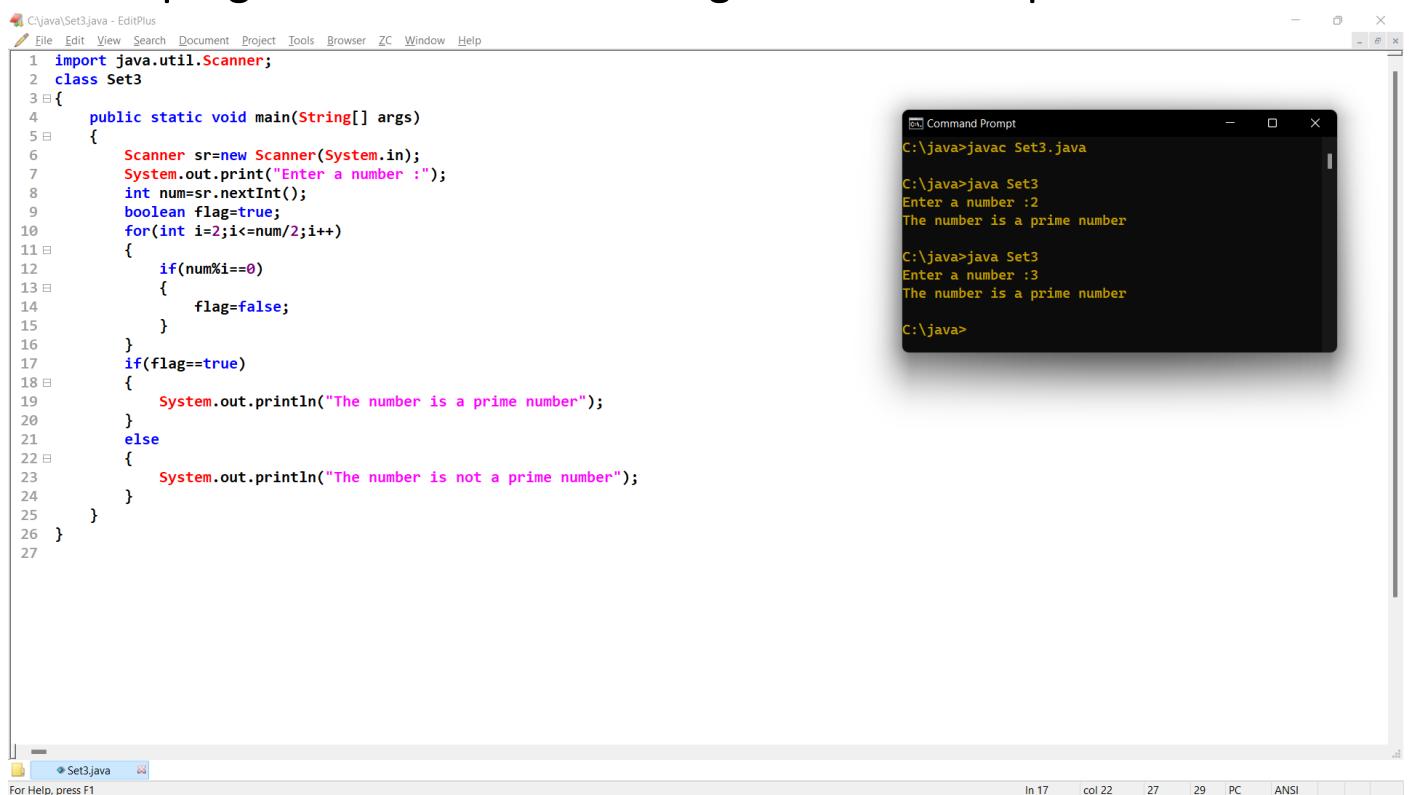
```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.println("Enter a range ");
8         System.out.print("\tfrom :");
9         int m=sr.nextInt();
10        System.out.print("\tto   :");
11        int n=sr.nextInt();
12        for(int i=m;i<n;i++)
13        {
14            int sum=0;
15            for(int j=1;j<=i/2;j++)
16            {
17                if(i%j==0)
18                {
19                    sum+=j;
20                }
21            }
22            if(sum==i)
23            {
24                System.out.println(i);
25            }
26        }
27    }
28 }

```

To the right of the code is a Command Prompt window showing the output of the program. It prompts for a range, then lists perfect numbers between 6 and 8128.

## Write a program to check whether given number is prime or not.



The screenshot shows a Java IDE window with the following code:

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner sr=new Scanner(System.in);
7         System.out.print("Enter a number :");
8         int num=sr.nextInt();
9         boolean flag=true;
10        for(int i=2;i<=num/2;i++)
11        {
12            if(num%i==0)
13            {
14                flag=false;
15            }
16        }
17        if(flag==true)
18        {
19            System.out.println("The number is a prime number");
20        }
21        else
22        {
23            System.out.println("The number is not a prime number");
24        }
25    }
26 }

```

To the right of the code is a Command Prompt window showing the output of the program. It prompts for a number and checks if it is prime.

## Write a program to print prime numbers from m to n.



The screenshot shows a Java code editor window titled "C:\java\Set3.java - EditPlus". The code prints prime numbers between two user-specified integers. A command prompt window shows the execution of the code and its output for the range from 1 to 10.

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter a range");
8         System.out.print("\tFrom\t: ");
9         int m=s.nextInt();
10        System.out.print("\tTo\t: ");
11        int n=s.nextInt();
12        System.out.print("prime number between "+m+" & "+n+" : (");
13        for (int j=m;j<=n;j++)
14        {
15            boolean flag=true;
16            for(int i=2;i<=j/2;i++)
17            {
18                if(j%i==0)
19                {
20                    flag=false;
21                }
22            }
23            if(flag==true)
24            {
25                System.out.print(j+", ");
26            }
27        }
28        System.out.print(")");
29    }
30 }

```

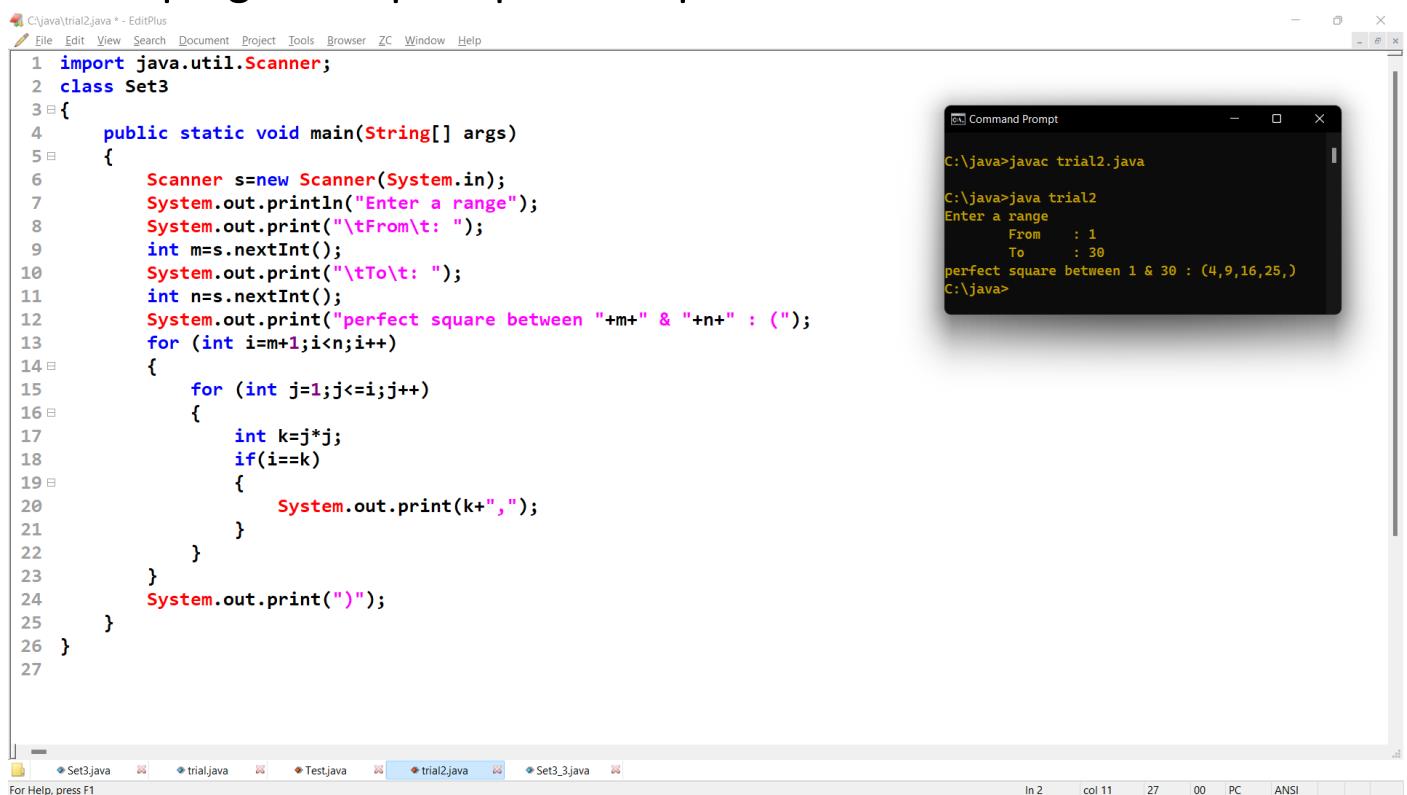
Command Prompt Output:

```

C:\java>javac Set3.java
C:\java>java Set3
Enter a range
      From : 1
      To : 10
prime number between 1 & 10 : (1, 2, 3, 5, 7, )
C:\java>

```

## Write a program to print perfect squares between m and n.



The screenshot shows a Java code editor window titled "C:\java\trial2.java \* - EditPlus". The code prints perfect squares between two user-specified integers. A command prompt window shows the execution of the code and its output for the range from 1 to 30.

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter a range");
8         System.out.print("\tFrom\t: ");
9         int m=s.nextInt();
10        System.out.print("\tTo\t: ");
11        int n=s.nextInt();
12        System.out.print("perfect square between "+m+" & "+n+" : (");
13        for (int i=m+1;i<n;i++)
14        {
15            for (int j=1;j<=i;j++)
16            {
17                int k=j*j;
18                if(i==k)
19                {
20                    System.out.print(k+", ");
21                }
22            }
23        }
24        System.out.print(")");
25    }
26 }

```

Command Prompt Output:

```

C:\java>javac trial2.java
C:\java>java trial2
Enter a range
      From : 1
      To : 30
perfect square between 1 & 30 : (4,9,16,25, )
C:\java>

```

## Write a program to print palindrome numbers between m and n.

The screenshot shows a Java code editor with the file `C:\java\trial2.java` open. The code defines a class `Set3` with a `main` method. It uses a `Scanner` to read input for a range from `m` to `n`. For each number in the range, it reverses the digits and checks if the reversed number equals the original number to determine if it's a palindrome. The output window shows the command prompt and the resulting palindrome numbers: 303, 313, 323, 333, 343, 353, 363, 373, 383, 393.

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6
7         Scanner s=new Scanner(System.in);
8         System.out.println("Enter a range");
9         System.out.print("\tFrom\t: ");
10        int m=s.nextInt();
11        System.out.print("\tTo\t: ");
12        int n=s.nextInt();
13        System.out.print("Palindrome numbers are : ()");
14        for (int i=m+1;i<n;i++)
15        {
16            int rev=0;
17            for (int j=i;j>0;j/=10)
18            {
19                int last=j%10;
20                rev=(rev*10)+last;
21            }
22            if(rev==i)
23            {
24                System.out.print(rev+",");
25            }
26        }
27        System.out.print(")");
28    }
29 }
30

```

## Write a program to print Strong numbers between m and n.

The screenshot shows a Java code editor with the file `C:\java\trial.java` open. The code defines a class `trial` with a `main` method. It uses a `Scanner` to read input for a range from `m` to `n`. For each number in the range, it calculates the sum of factorials of its digits. If the sum equals the original number, it is printed as a strong number. The output window shows the command prompt and the resulting strong numbers: 2, 145, 40585.

```

1 import java.util.Scanner;
2 class trial
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter a range");
8         System.out.print("\tFrom\t: ");
9         int m=s.nextInt();
10        System.out.print("\tTo\t: ");
11        int n=s.nextInt();
12        System.out.print("Strong numbers are: ()");
13        for (int i=m+1;i<n;i++)
14        {
15            int sum=0;
16            for (int j=i;j!=0;j/=10)
17            {
18                int last=j%10;
19                int fact=1;
20                for (int k=1;k<=last;k++)
21                {
22                    fact*=k;
23                }
24                sum+=fact;
25            }
26            if (sum==i)
27            {
28                System.out.print(sum+", ");
29            }
30        }
31        System.out.print(")");
32    }
33 }

```

## Write a program to print Armstrong numbers between m and n.

The screenshot shows a Java development environment with the following details:

- Code Editor:** C:\java\Set3.java - EditPlus
 

```

1 import java.util.Scanner;
2 class Set3
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter a range");
8         System.out.print("\tFrom\t: ");
9         int m=s.nextInt();
10        System.out.print("\tTo\t: ");
11        int n=s.nextInt();
12        System.out.print("Armstrong number between "+m+" & "+n+" : (");
13        for (int i=m;i<=n;i++)
14        {
15            int count=0;
16            int num=i;
17            int sum=0;
18            for (int j=i;j!=0;j/=10)
19            {
20                count++;
21            }
22            for (int k=i;k!=0;k/=10)
23            {
24                int pow=1;
25                num=k%10;
26                for (int l=1;l<=count;l++)
27                {
28                    pow*=num;
29                }
30                sum+=pow;
31            }
32            if (sum==i)
33            {
34                System.out.print(sum+", ");
35            }
36        }
37        System.out.print(")");
38    }
39 }
      
```
- Command Prompt Window:** C:\Command Prompt
 

```

C:\java>javac Set3.java
C:\java>java Set3
Enter a range
      From    : 10
      To     : 1000
Armstrong number between 10 & 1000 : (153, 370, 371, 407, )
C:\java>
      
```
- Status Bar:** For Help, press F1 | In 24 col 1 40 09 PC ANSI

```
*****
*****
*****
*****
*****
```

C:\java\Set4.java - EditPlus

File Edit View Search Document Project Tools Browser ZC Window Help

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                System.out.print("*");
14            }
15            System.out.println();
16        }
17    }
18 }
19

```

For Help, press F1

In 13 col 36 19 22 PC ANSI

Command Prompt

```

* * * *
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
*****
*****
*****
*****
*****
```

C:\java\Set4.java - EditPlus

File Edit View Search Document Project Tools Browser ZC Window Help

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                System.out.print("* ");
14            }
15            System.out.println();
16        }
17    }
18 }
19

```

For Help, press F1

In 14 col 14 19 00 PC ANSI

Command Prompt

```

* * * *
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
* * * *
* * * *
* * * *
* * * *
* * * *
```

```
* * * * *
* * * * *
* * * * *
* * * * *
```

C:\java\Set4.java - EditPlus
 File Edit View Search Document Project Tools Browser ZC Window Help

```
1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                System.out.print("* ");
14            }
15            System.out.println();
16            System.out.println();
17        }
18    }
19 }
```

Test.java Set3.java trial.java Set4.java

For Help, press F1

In 13 col 37 20 22 PC ANSI

```
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
* * * *
* * * *
* * * *
* * * *
* * * *
```

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*\*\*

C:\java\Set4.java \* - EditPlus

File Edit View Search Document Project Tools Browser ZC Window Help

```
1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=i;j++)
12            {
13                System.out.print("* ");
14            }
15            System.out.println();
16        }
17    }
18 }
19 }
```

Test.java Set3.java trial.java Set4.java

For Help, press F1

In 19 col 1 19 00 PC ANSI

```
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
*
* *
* * *
* * * *
* * * *
```

\*\*\*\*\*  
\*\*\*\*  
\*\*\*  
\*\*  
\*

C:\java\Set4.java - EditPlus  
File Edit View Search Document Project Tools Browser ZC Window Help

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=row;i>=1;i--)
10        {
11            for (int j=1;j<=i;j++)
12            {
13                System.out.print("*");
14            }
15            System.out.println();
16        }
17    }
18 }
19

```

```

C:\Command Prompt
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
*****
*****
*****
***
*
C:\java>

```

\*\*\*\*\*  
\*\*\*\*  
\*\*\*  
\*\*  
\*

C:\java\Set4.java - EditPlus  
File Edit View Search Document Project Tools Browser ZC Window Help

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=row;i>=1;i--)
10        {
11            for (int j=i;j<row;j++)
12            {
13                System.out.print(" ");
14            }
15            for (int k=1;k<=i;k++)
16            {
17                System.out.print("*");
18            }
19            System.out.println();
20        }
21    }
22 }

```

```

C:\Command Prompt
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
*****
*****
*****
***
*
C:\java>

```

```

*
**
***
****
*****  

C:\java\Set4.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=i;j<row;j++)
12            {
13                System.out.print(" ");
14            }
15            for (int k=1;k<=i;k++)
16            {
17                System.out.print("*");
18            }
19            System.out.println();
20        }
21    }
22 }

```

```

C:\Command Prompt
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
*****
***  

****  

*****  

*****

```

```

*****  

*@***  

*****  

*****  

***!*  


```

```

C:\java\Set4.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                if(i==2 && j==2)
14                {
15                    System.out.print("@");
16                }
17                else if(i==row-1 && j==row-1)
18                {
19                    System.out.print("!");
20                }
21                else
22                {
23                    System.out.print("*");
24                }
25            }
26            System.out.println();
27        }
28    }
29 }

```

```

C:\Command Prompt
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
*****
@***  

*****  

***!*  

*****

```

```

Set4.java  Set4_1.java  Ch_st.java  Ch_st1.java  Calculator3.java  Calculator4.java  star2.java  star.java  JSPIDER.java  Satyajava  star3.java  

For Help, press F1

```

In 18 col 18 30 00 PC ANSI

```
*****  
*#**  
**#*  
***#*  
****#
```

C:\java\Set4.java - EditPlus

```
File Edit View Search Document Project Tools Browser ZC Window Help
```

```
1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                if(i==j)
14                {
15                    System.out.print("#");
16                }
17                else
18                {
19                    System.out.print("*");
20                }
21            }
22            System.out.println();
23        }
24    }
25 }
```

For Help, press F1

In 21 col 10 26 00 PC ANSI

```
*****  
*#**  
**#*  
***#*  
****#
```

```
C:\java>javac Set4.java  
C:\java>java Set4  
Enter thr row : 5  
*****  
*#**  
**#*  
***#*  
****#  
C:\java>
```

```
*****  
* * *  
* * *  
* * *  
*****
```

C:\java\Set4.java \* - EditPlus

```
File Edit View Search Document Project Tools Browser ZC Window Help
```

```
1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter the row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                if(i==1||i==row||j==1||j==row||i==j)
14                {
15                    System.out.print("**");
16                }
17                else
18                {
19                    System.out.print(" ");
20                }
21            }
22            System.out.println();
23        }
24    }
25 }
```

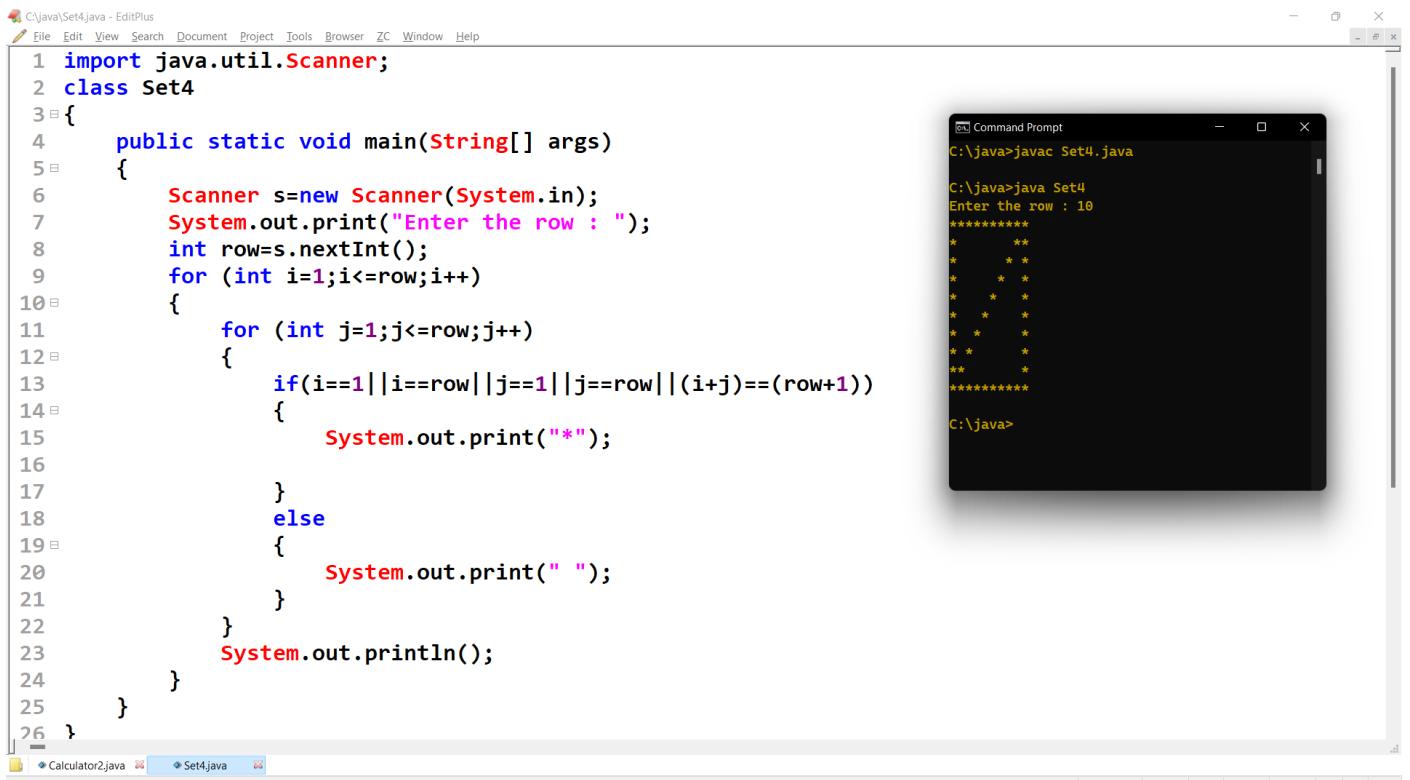
For Help, press F1

In 9 col 33 27 00 PC ANSI

```
*****  
* * *  
* * *  
* * *  
*****
```

```
C:\java>javac Set4.java  
C:\java>java Set4  
Enter the row : 5  
*****  
* * *  
* * *  
* * *  
*****  
C:\java>
```

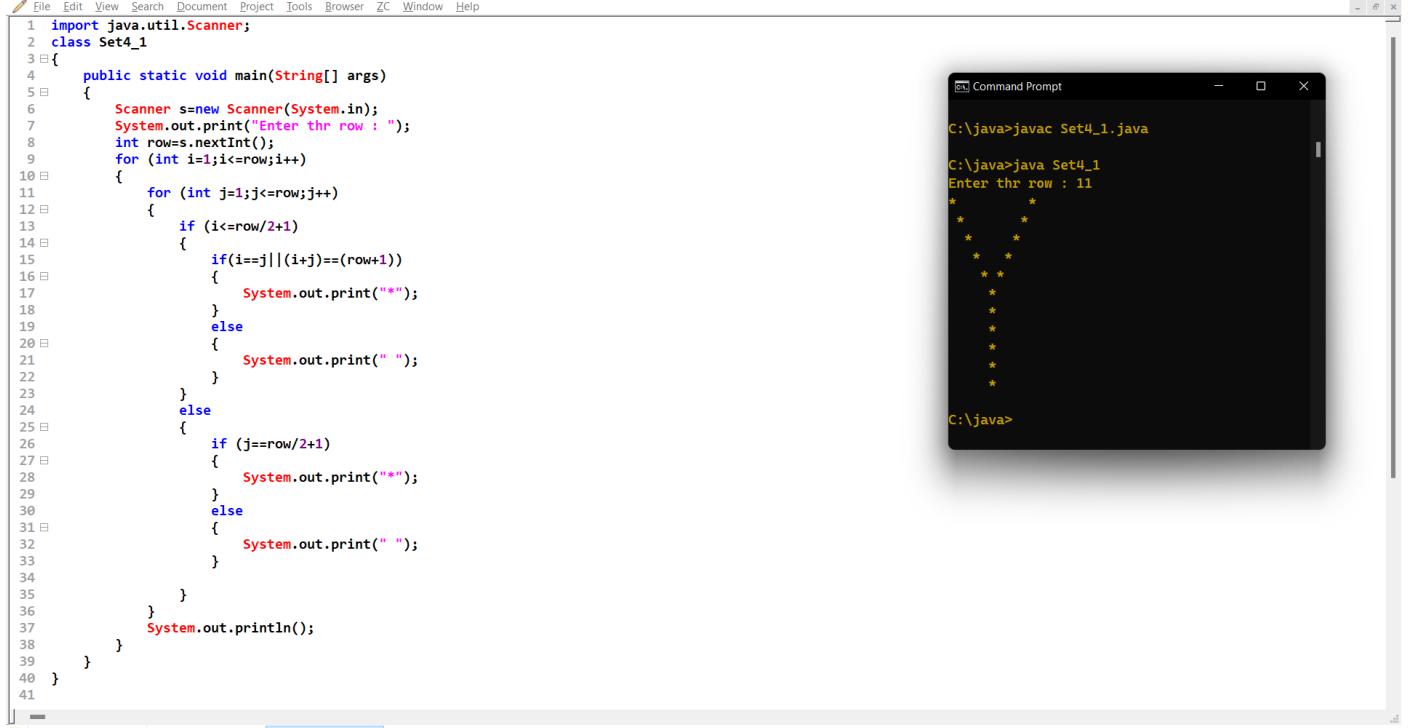
```
*****
* *
* *
* *
*****
```

C:\java\Set4.java - EditPlus  

 File Edit View Search Document Project Tools Browser ZC Window Help

```
1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter the row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                if(i==1||i==row||j==1||j==row||(i+j)==(row+1))
14                {
15                    System.out.print("*");
16                }
17                else
18                {
19                    System.out.print(" ");
20                }
21            }
22        }
23        System.out.println();
24    }
25 }
```

Command Prompt  
 C:\java>javac Set4.java  
 C:\java>java Set4  
 Enter the row : 10
 \*\*\*\*\*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \*\*\*\*\*
 C:\java>

```
* *
* *
*
*
*
```

C:\java\Set4\_1.java - EditPlus  

 File Edit View Search Document Project Tools Browser ZC Window Help

```
1 import java.util.Scanner;
2 class Set4_1
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                if (i<=row/2)
14                {
15                    if(i==j||(i+j)==(row+1))
16                    {
17                        System.out.print("*");
18                    }
19                    else
20                    {
21                        System.out.print(" ");
22                    }
23                }
24                else
25                {
26                    if (j==row/2)
27                    {
28                        System.out.print("*");
29                    }
30                    else
31                    {
32                        System.out.print(" ");
33                    }
34                }
35            }
36        }
37        System.out.println();
38    }
39 }
```

Command Prompt  
 C:\java>javac Set4\_1.java  
 C:\java>java Set4\_1  
 Enter thr row : 11
 \*\*\*\*\*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \* \*
 \*\*\*\*\*
 C:\java>

Calculator2.java Set4.java Set4\_1.java  
 For Help, press F1

In 10 col 9 41 7B PC ANSI

\*\*\*\*\*

\*\*\*\*\*

\*\*\*

\*

C:\java\star2.java - EditPlus

```

1 import java.util.Scanner;
2 class star2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter the number or row : ");
8         int row=s.nextInt();
9         for (int i=row;i>=1;i--)
10        {
11            for (int j=1;j<=row-i;j++)
12            {
13                System.out.print(" ");
14            }
15            for (int j=1;j<=(i*2)-1;j++)
16            {
17                System.out.print("*");
18            }
19            System.out.println();
20        }
21    }
22 }
23 }
```

```

C:\java>javac star2.java

C:\java>java star2
Enter the number or row : 20
*****
*****
```

0 \* 0 \* 0  
0 \* 0 \* 0  
0 \* 0 \* 0  
0 \* 0 \* 0  
0 \* 0 \* 0

C:\java\Set4.java - EditPlus

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                if(j%2==0)
14                {
15                    System.out.print("* ");
16                }
17                else
18                {
19                    System.out.print("0 ");
20                }
21            }
22        }
23    }
24 }
```

```

* 0 * 0 *
C:\java>javac Set4.java

C:\java>java Set4
Enter thr row : 5
0 * 0 * 0
0 * 0 * 0
0 * 0 * 0
0 * 0 * 0
0 * 0 * 0
```

AAAAA  
11111  
BBBBB  
22222  
CCCCC

C:\java\star3.java - EditPlus

```

1 import java.util.Scanner;
2 class star3
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter the number or row : ");
8         int row=s.nextInt();
9         char c='A';
10        int n=1;
11        for (int i=1;i<=row;i++)
12        {
13            for (int j=1;j<=row;j++)
14            {
15                if (i%2==1)
16                {
17                    System.out.print(c);
18                }
19                else
20                {
21                    System.out.print(n);
22                }
23            }
24            if (i%2==1)
25            {
26                c++;
27            }
28            else
29            {
30                n++;
31            }
32            System.out.println();
33        }
34    }
}

```

For Help, press F1

In 21 col 39 37 29 PC ANSI

Command Prompt

```

C:\java>javac star3.java
C:\java>java star3
Enter the number or row : 19
AAAAAAAAAAAAAAA
11111111111111111
BBBBBBBBBBBBBBBBBB
22222222222222222
CCCCCCCCCCCCCCCCCC
33333333333333333
DDDDDDDDDDDDDDDD
444444444444444444
EEEEEEEEE
555555555555555555
FFFFFF
666666666666666666
GGGGGGGGGGGGGGGGGG
77777777777777777
HHHHHHHHHHHHHHHHHHH
888888888888888888
IIIIIIIIIIIIIIIIII
99999999999999999999
JJJJJJJJJJJJJJJJJJJJ
C:\java>

```

abcd  
1234  
efgh  
5678

C:\java\Set4.java - EditPlus

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         int x=1;
10        char y='a';
11        for (int i=1;i<=row;i++)
12        {
13            for (int j=1;j<=row;j++)
14            {
15                if(i%2==0)
16                {
17                    System.out.print(x);
18                    x++;
19                }
20                else
21                {
22                    System.out.print(y);
23                    y++;
24                }
25            }
26            System.out.println();
27        }
28    }
}

```

For Help, press F1

In 15 col 21 30 25 PC ANSI

Command Prompt

```

C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 4
abcd
efgh
5678
C:\java>

```

A1111

1B 1

1 C 1

1 D1

1111E

The screenshot shows a Java IDE interface with two panes. The left pane displays the source code for `Set4.java`. The right pane shows the terminal output of the command `C:\java>javac Set4.java`, followed by the execution of the program with input `Enter thr row : 5`, which outputs the sequence A1111, 1B 1, 1 C 1, 1 D1, and 1111E.

```

1 //a bc cde defg
2 import java.util.Scanner;
3 class Set4
4 {
5     public static void main(String[] args)
6     {
7         Scanner s=new Scanner(System.in);
8         System.out.print("Enter thr row : ");
9         int row=s.nextInt();
10        char y='A';
11        for (int i=1;i<=row;i++)
12        {
13            for (int j=1;j<=row;j++)
14            {
15                if(i==j)
16                {
17                    System.out.print(y);
18                    y++;
19                }
20                else if(i==1||i==row||j==1||j==row)
21                {
22                    System.out.print("1");
23                }
24                else
25                {
26                    System.out.print(" ");
27                }
28            }
29        }
30    }

```

12345

67891

23456

78912

34567

The screenshot shows a Java IDE interface with two panes. The left pane displays the source code for `Set4.java`. The right pane shows the terminal output of the command `C:\java>javac Set4.java`, followed by the execution of the program with input `Enter thr row : 5`, which outputs the sequence 12345, 67891, 23456, 78912, and 34567.

```

1 /**
2  * a
3  * bc
4  * cde
5  * defg
6 */
7 import java.util.Scanner;
8 class Set4
9 {
10    public static void main(String[] args)
11    {
12        Scanner s=new Scanner(System.in);
13        System.out.print("Enter thr row : ");
14        int row=s.nextInt();
15        int x=1;
16        for (int i=1;i<=row;i++)
17        {
18            for (int j=1;j<=row;j++)
19            {
20                if(x==9)
21                {
22                    System.out.print(x);
23                    x=1;
24                }
25                else
26                {
27                    System.out.print(x);
28                    x++;
29                }
30            }
31        }
32    }
33 }

```

```
a
ab
abc
abcd
abcde
```

The screenshot shows a Java code editor with the file `Set4.java` open. The code prints a triangular pattern of characters. A command prompt window shows the execution of `javac Set4.java` followed by `java Set4` with input `5`, resulting in the output:

```
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 5
a
ab
abc
abcd
abcde
C:\java>
```

```
a
bc
cde
defg
efghi
```

The screenshot shows a Java code editor with the file `Set4.java` open. The code prints a triangular pattern of characters. A command prompt window shows the execution of `javac Set4.java` followed by `java Set4` with input `7`, resulting in the output:

```
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 7
a
bc
cde
defg
efghi
fghijk
ghijklm
C:\java>
```

1  
ab  
123  
abcd

The screenshot shows a Java IDE interface. On the left is a code editor with the following Java code:

```

4  public static void main(String[] args)
5  {
6      Scanner s=new Scanner(System.in);
7      System.out.print("Enter thr row : ");
8      int row=s.nextInt();
9
10     for (int i=1;i<=row;i++)
11     {
12         char c='a';
13         int n=1;
14         for (int j=1;j<=i;j++)
15         {
16             if (i%2==0)
17             {
18                 System.out.print(c++);
19             }
20             else
21             {
22                 System.out.print(n++);
23             }
24         }
25         System.out.println();
26     }
27 }
28

```

On the right is a terminal window titled "Command Prompt" showing the output of the program:

```

C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 4
1
ab
123
abcd
C:\java>

```

a  
b1  
c2d  
e3f4

The screenshot shows a Java IDE interface. On the left is a code editor with the following Java code:

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         char c='a';
10        int n=1;
11        for (int i=1;i<=row;i++)
12        {
13            for (int j=1;j<=i;j++)
14            {
15                if (j%2==0)
16                {
17                    System.out.print(n++);
18                }
19                else
20                {
21                    System.out.print(c++);
22                }
23            }
24            System.out.println();
25        }
26    }
27 }

```

On the right is a terminal window titled "Command Prompt" showing the output of the program:

```

5c6d
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 4
a
b1
c2d
e3f4
C:\java>

```

1  
32  
654  
10987

C:\java\Set4.java - EditPlus

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         int n=0;
10        for (int i=1;i<=row;i++)
11        {
12            n+=i;
13            int n1=n;
14            for (int j=1;j<=i;j++)
15            {
16                System.out.print(n1--);
17            }
18            System.out.println();
19        }
20    }
21 }
22

```

For Help, press F1

In 15 col 1 22 09 PC ANSI

Command Prompt

```

C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 4
1
32
654
10987
C:\java>

```

0101  
1010  
0101  
1010

C:\java\Set4.java - EditPlus

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=row;j++)
12            {
13                //if (i%2==0&&j%2==1| i%2==1&&j%2==0)
14                if((i+j)%2==1)
15                {
16                    System.out.print("1");
17                }
18                else
19                {
20                    System.out.print("0");
21                }
22            }
23        }
24        System.out.println();
25    }
26 }
27

```

For Help, press F1

In 12 col 14 28 00 PC ANSI

Command Prompt

```

C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 4
0101
1010
0101
1010
C:\java>

```

```
0
101
01010
1010101
```

The screenshot shows a Java IDE interface with two tabs: "Set4.java" and "Test.java". The "Set4.java" tab contains the following code:

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         for (int i=1;i<=row;i++)
10        {
11            for (int j=1;j<=2*i-1;j++)
12            {
13                System.out.print((i+j)%2);
14            }
15            System.out.println();
16        }
17    }
18 }
19

```

To the right of the editor is a "Command Prompt" window showing the execution of the code:

```
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 4
0
101
01010
1010101
C:\java>
```

```
1
4 9
16 25 36
49 64 81 100
```

The screenshot shows a Java IDE interface with two tabs: "Set4.java" and "Test.java". The "Set4.java" tab contains the following code:

```

1 import java.util.Scanner;
2 class Set4
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter thr row : ");
8         int row=s.nextInt();
9         int num=1;
10        for (int i=1;i<=row;i++)
11        {
12            for (int j=1;j<=i;j++)
13            {
14                System.out.print(num*num+" ");
15                num++;
16            }
17            System.out.println();
18        }
19    }
20 }

```

To the right of the editor is a "Command Prompt" window showing the execution of the code:

```
C:\java>javac Set4.java
C:\java>java Set4
Enter thr row : 4
1
4 9
16 25 36
49 64 81 100
C:\java>
```

```
*  
***  
*****  
***  
*  
C:\java\Set4.java - EditPlus  
File Edit View Search Document Project Tools Browser ZC Window Help  
1 import java.util.Scanner;  
2 class Set4  
3 {  
4     public static void main(String[] args)  
5     {  
6         Scanner s=new Scanner(System.in);  
7         System.out.print("Enter thr row : ");  
8         int row=s.nextInt();  
9         for (int i=1;i<=row;i++)  
10        {  
11            for (int j=1;j<=row-i;j++)  
12            {  
13                System.out.print(" ");  
14            }  
15            for (int j=1;j<=(i*2)-1;j++)  
16            {  
17                System.out.print("*");  
18            }  
19            System.out.println();  
20        }  
21        for (int i=row-1;i>=1;i--)  
22        {  
23            for (int j=1;j<=row-i;j++)  
24            {  
25                System.out.print(" ");  
26            }  
27            for (int j=1;j<=(i*2)-1;j++)  
28            {  
29                System.out.print("*");  
30            }  
31            System.out.println();  
32        }  
33    }  
34 }  
For Help, press F1  
In 21 col 24 35 31 PC ANSI
```

The screenshot shows a Java application window with two panes. The left pane is an IDE (EditPlus) displaying the Java code for 'Set4.java'. The right pane is a 'Command Prompt' window showing the execution of the code. The command 'javac Set4.java' is run, followed by 'java Set4'. The user enters '3' when prompted 'Enter thr row : '. The output shows a triangular pattern of asterisks:

```
C:\java>javac Set4.java  
C:\java>java Set4  
Enter thr row : 3  
*  
***  
*****  
***  
*
```

## Java program to print the elements of an array.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         int size=s.nextInt();
8         int a[]={};
9         for (int i=0;i<a.length;i++)
10        {
11            a[i]=s.nextInt();
12        }
13        for (int i=0;i<a.length;i++)
14        {
15            System.out.print(+a[i]+",");
16        }
17    }
18 }
19

```

The terminal window shows the output of running the program:

```

C:\java>javac Arrays.java
C:\java>java Arrays
4
1
2
3
4
1,2,3,4,
C:\java>

```

The status bar at the bottom indicates the current file is `Arrays.java`.

## Java program to print the sum of all the elements of the array.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.print("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        int sum=0;
11        System.out.print("Enter the elements : ");
12        for (int i=0;i<a.length;i++)
13        {
14            a[i]=s.nextInt();
15        }
16        for (int i=0;i<a.length;i++)
17        {
18            sum+=a[i];
19        }
20        System.out.print("Sum of the all elements of the array : "+sum);
21    }
22 }

```

The terminal window shows the output of running the program:

```

C:\java>javac Arrays.java
C:\java>java Arrays
Enter the size of an array : 4
Enter the elements : 10 20 30 40
Sum of the all elements of the array : 100
C:\java>

```

The status bar at the bottom indicates the current file is `Arrays.java`.

## Java program to print the number of elements present in an array.

```

C:\Java\Arrays.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
1 class Arrays
2 {
3     public static void main(String[] args)
4     {
5
6         int a[]={2,4,3,6,4,7,8};
7         int count=0;
8         for (int i=0;i<a.length;i++)
9         {
10             count++;
11         }
12         System.out.println("Number of elements present in the array : "+count);
13     }
14 }
15

```

Command Prompt output:

```

Enter the size of an array :
8Exception in thread "main" java.util.NoSuchElementException
at java.util.Scanner.throwFor(Unknown Source)
C:\java>javac Arrays2.java
C:\java>java Arrays
Number of elements present in the array :
7
C:\java>

```

## Java program to print the elements of an array in reverse order.

```

C:\Java\Arrays.java - EditPlus
File Edit View Search Document Project Tools Browser ZC Window Help
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={new int[size];
10        int sum=0;
11        System.out.println("Enter the elements : ");
12        for (int i=0;i<a.length;i++)
13        {
14            a[i]=s.nextInt();
15        }
16        System.out.print("Elements in reverse order : ");
17        for (int i=a.length-1;i>=0;i--)
18        {
19            System.out.print(a[i]+",");
20        }
21    }
22 }
23

```

Command Prompt output:

```

C:\java>javac Arrays.java
C:\java>java Arrays
Enter the size of an array :
4
Enter the elements :
1
2
3
4
Elements in reverse order : 4,3,2,1,
C:\java>

```

## Java Program to copy all the elements of one array into another array.

The screenshot shows a Java code editor with the file `C:\java\Arrays.java` open. The code defines a class `Arrays` with a `main` method. It uses `Scanner` to read the size and elements of an array, then creates a second array and copies the elements from the first array into it. A command prompt window shows the execution of the program, where the user enters the size and elements of the first array, and the program prints the elements of the second array.

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        int b[]={};
11        System.out.println("Enter the elements : ");
12        for (int i=0;i<a.length;i++)
13        {
14            a[i]=s.nextInt();
15            b[i]=a[i];
16        }
17        System.out.println("Elements of the 2nd array : ");
18        for (int i=0;i<a.length;i++)
19        {
20            System.out.print(b[i]+" ");
21        }
22    }
23 }

```

## Java program to merge all the elements of two arrays.

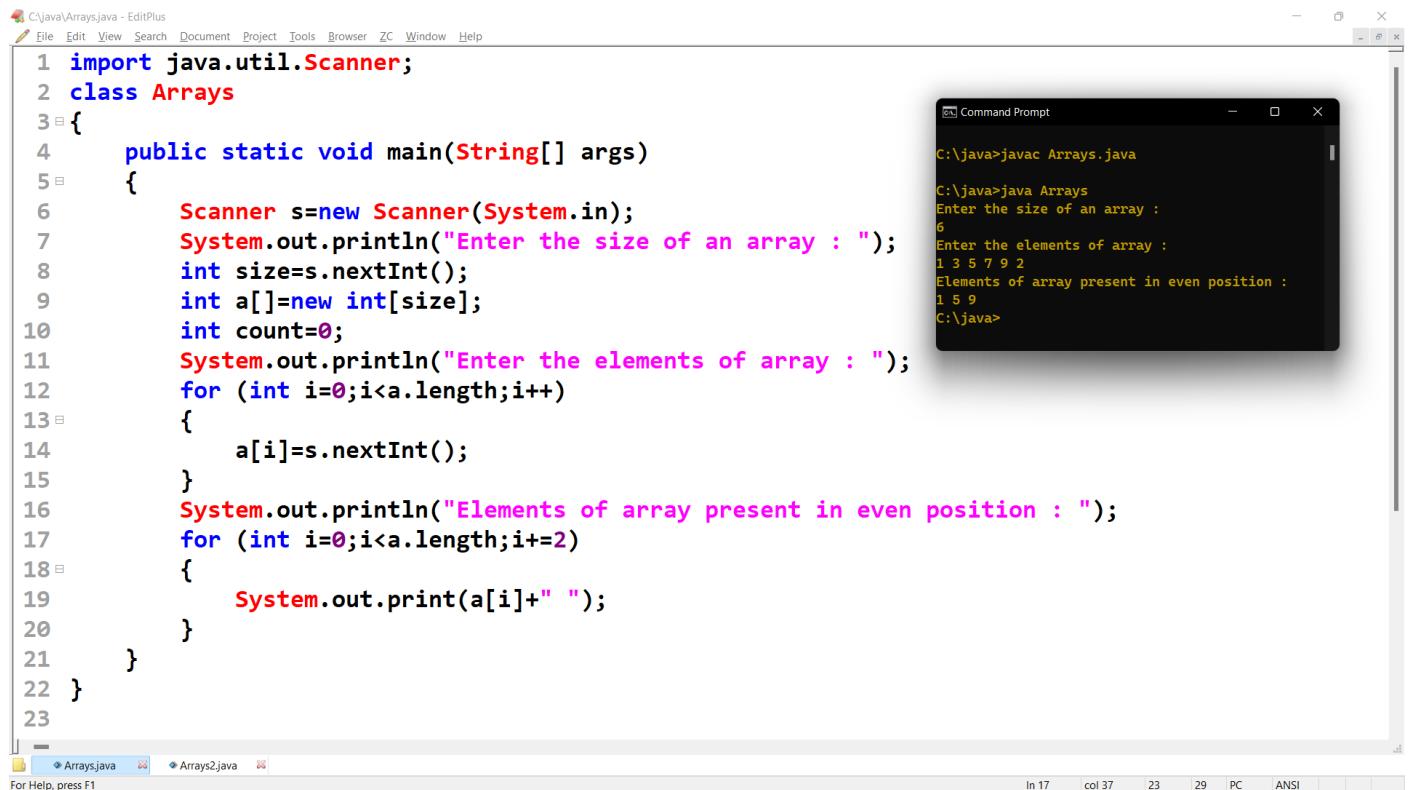
The screenshot shows a Java code editor with the file `C:\java\Arrays.java` open. The code defines a class `Arrays` with a `main` method. It reads the sizes and elements of two arrays, then creates a third array and merges the elements of both arrays into it. A command prompt window shows the execution of the program, where the user enters the sizes and elements of both arrays, and the program prints the merged elements of the third array.

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        int b[]={};
11        int c[]={size*2};
12        System.out.println("Enter the elements of 1st array : ");
13        for (int i=0;i<a.length;i++)
14        {
15            a[i]=s.nextInt();
16        }
17        System.out.println("Enter the elements of 2nd array : ");
18        for (int i=0;i<b.length;i++)
19        {
20            b[i]=s.nextInt();
21        }
22        System.out.println("Elements of the 2nd array : ");
23        for (int i=0;i<c.length;i++)
24        {
25            c[i]=a[i];
26        }
27        int j=0;
28        for (int i=a.length;i<c.length;i++)
29        {
30            c[i]=b[j++];
31        }
32        for (int i=0;i<c.length;i++)
33        {
34            System.out.print(c[i]+" ");
35        }
36    }
37 }

```

## Java program to print the elements of an array present in even position.



The screenshot shows a Java code editor window titled "C:\Java\Arrays.java - EditPlus". The code is as follows:

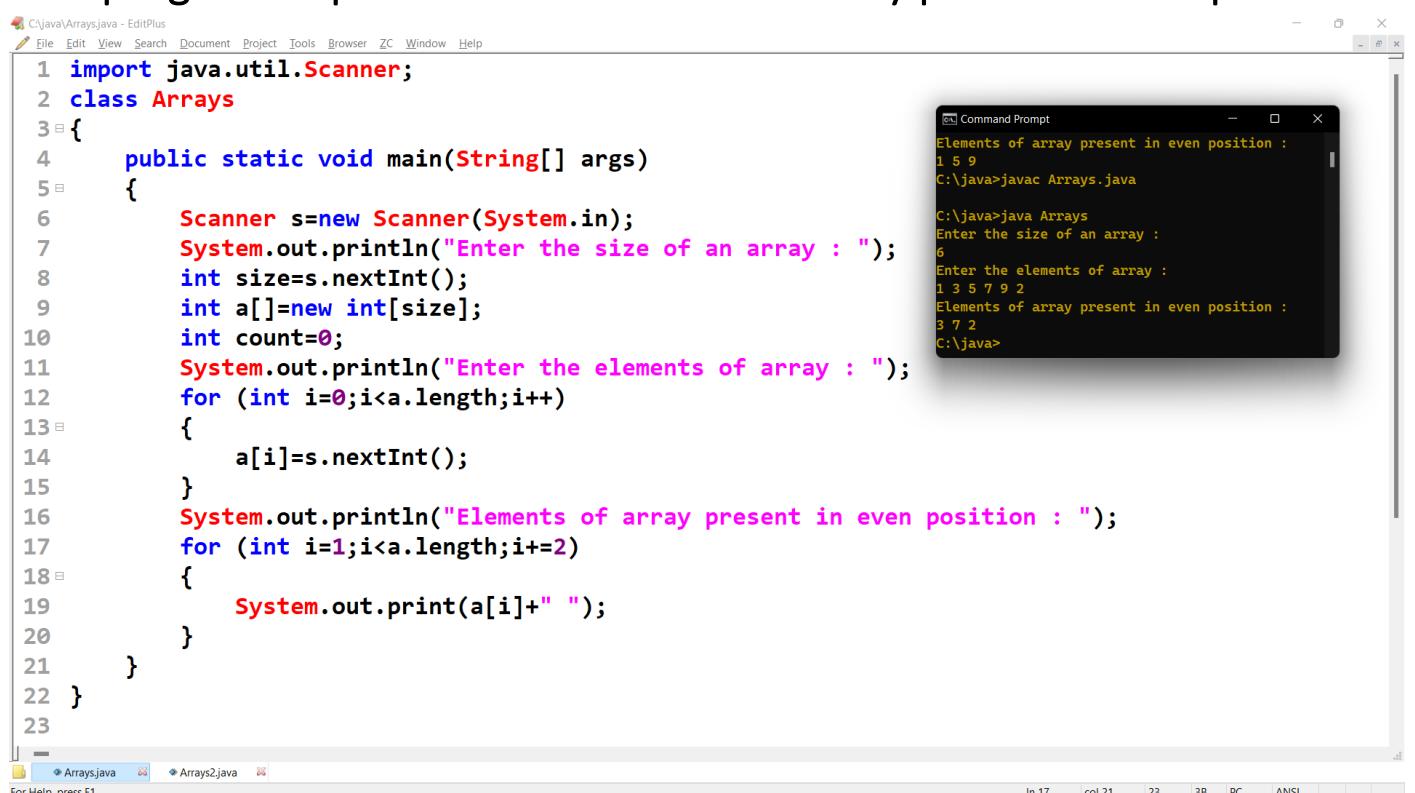
```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        int count=0;
11        System.out.println("Enter the elements of array : ");
12        for (int i=0;i<a.length;i++)
13        {
14            a[i]=s.nextInt();
15        }
16        System.out.println("Elements of array present in even position : ");
17        for (int i=0;i<a.length;i+=2)
18        {
19            System.out.print(a[i]+" ");
20        }
21    }
22 }

```

To the right of the editor is a "Command Prompt" window showing the output of the program. The user enters "java Arrays" and the program asks for the size of the array (6). Then it asks for the elements (1 3 5 7 9 2) and prints the even-positioned elements (1 5 9).

## Java program to print the elements of an array present in odd position.



The screenshot shows a Java code editor window titled "C:\Java\Arrays.java - EditPlus". The code is identical to the previous one, but the logic for printing elements is reversed:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        int count=0;
11        System.out.println("Enter the elements of array : ");
12        for (int i=0;i<a.length;i++)
13        {
14            a[i]=s.nextInt();
15        }
16        System.out.println("Elements of array present in odd position : ");
17        for (int i=1;i<a.length;i+=2)
18        {
19            System.out.print(a[i]+" ");
20        }
21    }
22 }

```

To the right of the editor is a "Command Prompt" window showing the output of the program. The user enters "java Arrays" and the program asks for the size of the array (6). Then it asks for the elements (1 3 5 7 9 2) and prints the odd-positioned elements (3 7 2).

## Java program to sort the elements of an array in ascending order.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        System.out.println("Enter the elements of array : ");
11        for (int i=0;i<a.length;i++)
12        {
13            a[i]=s.nextInt();
14        }
15        for (int i=0;i<a.length;i++)
16        {
17            for (int j=i+1;j<a.length;j++)
18            {
19                if (a[i]>a[j])
20                {
21                    int temp=a[j];
22                    a[j]=a[i];
23                    a[i]=temp;
24                }
25            }
26        }
27        System.out.println("Elements of array in increasing order : ");
28        for (int i=0;i<a.length;i++)
29        {
30            System.out.print(a[i]+" ");
31        }
32    }
33 }

```

The terminal window shows the output of the program. It asks for the size of the array (5), then the elements (5 7 8 6 9). It then prints the elements in increasing order (5 6 7 8 9).

## Java program to sort the elements of an array in decending order.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        System.out.println("Enter the elements of array : ");
11        for (int i=0;i<a.length;i++)
12        {
13            a[i]=s.nextInt();
14        }
15        for (int i=0;i<a.length;i++)
16        {
17            for (int j=i+1;j<a.length;j++)
18            {
19                if (a[i]<a[j])
20                {
21                    int temp=a[j];
22                    a[j]=a[i];
23                    a[i]=temp;
24                }
25            }
26        }
27        System.out.println("Elements of array in descending order : ");
28        for (int i=0;i<a.length;i++)
29        {
30            System.out.print(a[i]+" ");
31        }
32    }
33 }

```

The terminal window shows the output of the program. It asks for the size of the array (5), then the elements (6 8 4 7 9). It then prints the elements in descending order (9 8 7 6 4).

## Java program to print the largest element in the array.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        System.out.println("Enter the elements of 1st array : ");
11        for (int i=0;i<a.length;i++)
12        {
13            a[i]=s.nextInt();
14        }
15        int max=a[0];
16        for (int i=1;i<a.length;i++)
17        {
18            if (max<a[i])
19            {
20                max=a[i];
21            }
22        }
23        System.out.println("Largest elements in the array : "+max);
24    }
25 }

```

The terminal window shows the output of running the program:

```

C:\java>javac Arrays.java
C:\java>java Arrays
Enter the size of an array :
5
Enter the elements of 1st array :
2 5 3 9 1
Largest elements in the array : 9
C:\java>

```

## Java program to print the smallest element in an array

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int size=s.nextInt();
9         int a[]={};
10        System.out.println("Enter the elements of 1st array : ");
11        for (int i=0;i<a.length;i++)
12        {
13            a[i]=s.nextInt();
14        }
15        int min=a[0];
16        for (int i=1;i<a.length;i++)
17        {
18            if (min>a[i])
19            {
20                min=a[i];
21            }
22        }
23        System.out.println("Smallest elements in the array : "+min);
24    }
25 }

```

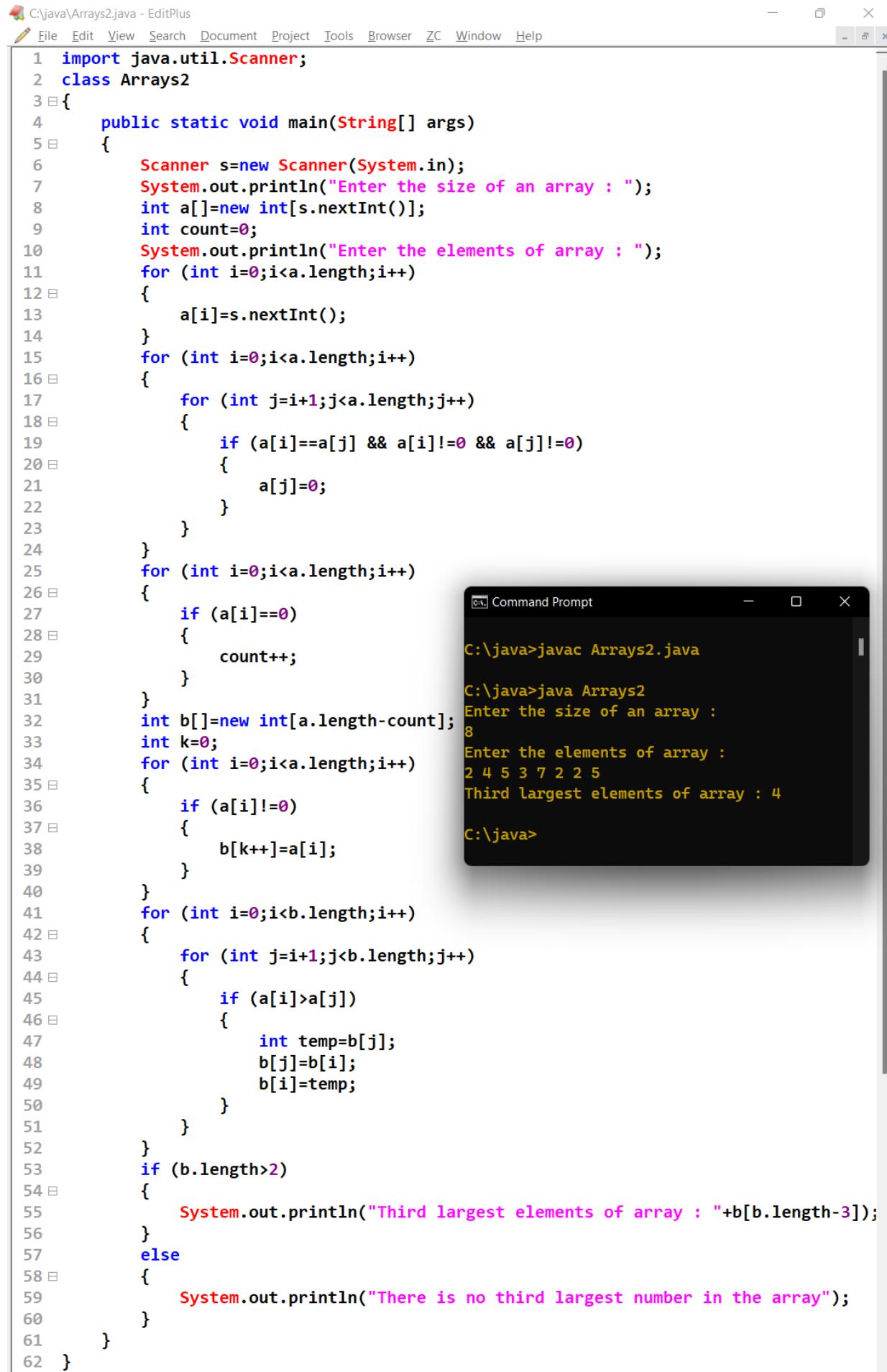
The terminal window shows the output of running the program:

```

C:\java>javac Arrays.java
C:\java>java Arrays
Enter the size of an array :
5
Enter the elements of 1st array :
2 6 3 9 1
Smallest elements in the array : 1
C:\java>

```

## Java program to find the 3rd largest number in an array.



```

1 import java.util.Scanner;
2 class Arrays2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int a[]=new int[s.nextInt()];
9         int count=0;
10        System.out.println("Enter the elements of array : ");
11        for (int i=0;i<a.length;i++)
12        {
13            a[i]=s.nextInt();
14        }
15        for (int i=0;i<a.length;i++)
16        {
17            for (int j=i+1;j<a.length;j++)
18            {
19                if (a[i]==a[j] && a[i]!=0 && a[j]!=0)
20                {
21                    a[j]=0;
22                }
23            }
24        }
25        for (int i=0;i<a.length;i++)
26        {
27            if (a[i]==0)
28            {
29                count++;
30            }
31        }
32        int b[]=new int[a.length-count];
33        int k=0;
34        for (int i=0;i<a.length;i++)
35        {
36            if (a[i]!=0)
37            {
38                b[k++]=a[i];
39            }
40        }
41        for (int i=0;i<b.length;i++)
42        {
43            for (int j=i+1;j<b.length;j++)
44            {
45                if (a[i]>a[j])
46                {
47                    int temp=b[j];
48                    b[j]=b[i];
49                    b[i]=temp;
50                }
51            }
52        }
53        if (b.length>2)
54        {
55            System.out.println("Third largest elements of array : "+b[b.length-3]);
56        }
57        else
58        {
59            System.out.println("There is no third largest number in the array");
60        }
61    }
62 }

```

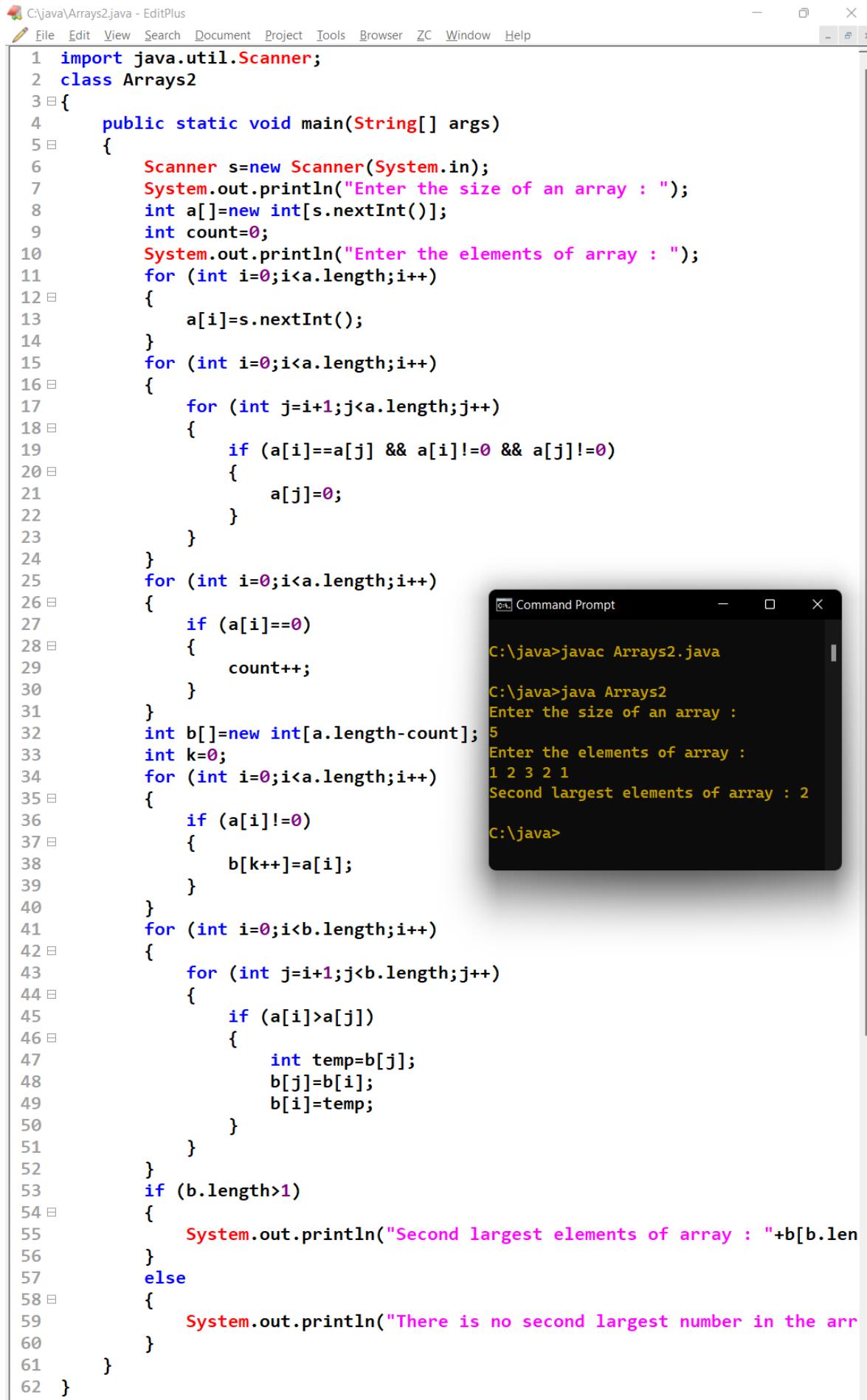
The screenshot shows the command prompt window with the following output:

```

C:\java>javac Arrays2.java
C:\java>java Arrays2
Enter the size of an array :
8
Enter the elements of array :
2 4 5 3 7 2 2 5
Third largest elements of array : 4
C:\java>

```

## Java program to find the 2nd largest number in an array.



```

1 import java.util.Scanner;
2 class Arrays2
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int a[]=new int[s.nextInt()];
9         int count=0;
10        System.out.println("Enter the elements of array : ");
11        for (int i=0;i<a.length;i++)
12        {
13            a[i]=s.nextInt();
14        }
15        for (int i=0;i<a.length;i++)
16        {
17            for (int j=i+1;j<a.length;j++)
18            {
19                if (a[i]==a[j] && a[i]!=0 && a[j]!=0)
20                {
21                    a[j]=0;
22                }
23            }
24        }
25        for (int i=0;i<a.length;i++)
26        {
27            if (a[i]==0)
28            {
29                count++;
30            }
31        }
32        int b[]=new int[a.length-count];
33        int k=0;
34        for (int i=0;i<a.length;i++)
35        {
36            if (a[i]!=0)
37            {
38                b[k++]=a[i];
39            }
40        }
41        for (int i=0;i<b.length;i++)
42        {
43            for (int j=i+1;j<b.length;j++)
44            {
45                if (a[i]>a[j])
46                {
47                    int temp=b[j];
48                    b[j]=b[i];
49                    b[i]=temp;
50                }
51            }
52        }
53        if (b.length>1)
54        {
55            System.out.println("Second largest elements of array : "+b[b.length-2]);
56        }
57        else
58        {
59            System.out.println("There is no second largest number in the array");
60        }
61    }
62 }

```

The code above is a Java program that finds the second largest element in an array. It uses a Scanner to read input from the user. It first finds all non-zero elements and stores them in a new array. Then it sorts this array and prints the second largest element.

The output of the program is:

```

C:\java>javac Arrays2.java
C:\java>java Arrays2
Enter the size of an array :
5
Enter the elements of array :
1 2 3 2 1
Second largest elements of array : 2
C:\java>

```

## Java program to find the 2nd smallest number in an array.

The screenshot shows a Java IDE interface with two tabs: "Arrays.java" and "Arrays2.java". The "Arrays2.java" tab is active, displaying the following code:

```

1 import java.util.Scanner;
2 public class Arrays2
3 {
4     public static void secondLargest(int arr[])
5     {
6         for(int i=0;i<arr.length;i++)
7         {
8             for(int j=i;j<arr.length;j++)
9             {
10                 if(arr[i]<arr[j])
11                 {
12                     arr[i]=arr[i]+arr[j];
13                     arr[j]=arr[i]-arr[j];
14                     arr[i]=arr[i]-arr[j];
15                 }
16             }
17         for(int i=0;i<arr.length;i++)
18         {
19             try
20             {
21                 if(arr[i]!=arr[i+1])
22                 {
23                     System.out.println("Second largest number is : "+arr[i+1]); // 4 4 4 4
24                     break;
25                 }
26             }
27             catch(ArrayIndexOutOfBoundsException e)
28             {
29                 System.out.println("There is no 2nd largest number");
30             }
31         }
32     public static void main(String[] args)
33     {
34         Scanner sc=new Scanner(System.in);
35         System.out.print("Enter the size of array : ");
36         int arr[]=new int[sc.nextInt()];
37         System.out.print("Enter the elements of array : ");
38         for(int i=0;i<arr.length;i++)
39         {
40             arr[i]=sc.nextInt();
41         }
42         secondLargest(arr);
43     }
}

```

To the right of the code is a terminal window showing the execution of the program:

```

C:\java>javac Arrays2.java
C:\java>java Arrays2
Enter the size of array : 5
Enter the elements of array : 5 3 6 9 1
Second largest number is : 6
C:\java>

```

## Java program to find smallest number in an array.

The screenshot shows a Java IDE interface with two tabs: "Arrays.java" and "Arrays2.java". The "Arrays2.java" tab is active, displaying the following code:

```

1 import java.util.Scanner;
2 public class Arrays2
3 {
4     public static void main(String[] args) {
5         Scanner sc=new Scanner(System.in);
6         System.out.print("Enter the size of array : ");
7         int arr[]=new int[sc.nextInt()];
8         System.out.print("Enter the elements of array : ");
9         for(int i=0;i<arr.length;i++)
10        {
11            arr[i]=sc.nextInt();
12        }
13        int i=0;
14        for(int j=0;j<arr.length;j++)
15        {
16            if(arr[i]>arr[j])
17            {
18                arr[i]=arr[j];
19            }
20        }
21        System.out.println("Largest element in the array: "+arr[0]);
22    }
}

```

To the right of the code is a terminal window showing the execution of the program:

```

C:\java>javac Arrays2.java
C:\java>java Arrays2
Enter the size of array : 5
Enter the elements of array : 4 2 3 3 1
Largest element in the array: 1
C:\java>

```

## Java program to left rotate the elements of an array.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int a[]={};
9         System.out.println("Enter the elements of array : ");
10        for (int i=0;i<a.length;i++)
11        {
12            a[i]=s.nextInt();
13        }
14        int temp=a[0];
15        for (int i=1;i<a.length;i++)
16        {
17            a[i-1]=a[i];
18        }
19        a[a.length-1]=temp;
20        for (int i=0;i<a.length;i++)
21        {
22            System.out.print(a[i]+" ");
23        }
24    }
25 }

```

The terminal window shows the output of the program. It asks for the size of the array (5), then the elements (2 3 5 4 6), and then prints the rotated array (3 5 4 6 2).

*2<sup>nd</sup> type*

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int a[]={};
9         System.out.println("Enter the elements of array : ");
10        for (int i=0;i<a.length;i++)
11        {
12            a[i]=s.nextInt();
13        }
14        System.out.println("How many times you want to shift : ");
15        int count=s.nextInt();
16        for (int i=1;i<=count;i++)
17        {
18            int temp=a[0];
19            for (int j=1;j<a.length;j++)
20            {
21                a[j-1]=a[j];
22            }
23            a[a.length-1]=temp;
24        }
25        for (int i=0;i<a.length;i++)
26        {
27            System.out.print(a[i]+" ");
28        }
29    }
30 }

```

The terminal window shows the output of the program. It asks for the size of the array (5), the elements (3 5 7 8 9), and the number of shifts (3). It then rotates the array three times and prints it (8 9 3 5 7).

## Java program to right rotate the elements of an array.

The screenshot shows a Java IDE window with the file `C:\java\Arrays.java` open. The code implements a right rotation of an array. It first reads the size and elements of the array, then asks for the number of right shifts. It performs the shift by moving the last element to the first position and then shifting all other elements one position to the right. Finally, it prints the rotated array. To the right of the IDE is a Command Prompt window showing the execution of the program. The user enters the size (5), elements (2 4 5 7 8), and shift count (1). The output shows the rotated array (8 2 4 5 7).

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int a[]={};
9         System.out.println("Enter the elements of array : ");
10        for (int i=0;i<a.length;i++)
11        {
12            a[i]=s.nextInt();
13        }
14        System.out.println("How many times you want to right shift : ");
15        int count=s.nextInt();
16        for (int i=1;i<count;i++)
17        {
18            int temp=a[a.length-1];
19            for (int j=a.length-2;j>=0;j--)
20            {
21                a[j+1]=a[j];
22            }
23            a[0]=temp;
24        }
25        for (int i=0;i<a.length;i++)
26        {
27            System.out.print(a[i]+" ");
28        }
29    }
30 }

```

*2<sup>nd</sup> type*

The screenshot shows a Java IDE window with the file `C:\java\Arrays2.java` open. This version uses a helper method `shift` to perform the rotation. The `main` method reads the array size and elements, then asks for the number of shifts. It calls the `shift` method for each shift, printing the state of the array after each shift. The Command Prompt window shows the execution of the program. The user enters the size (5), elements (1 2 3 4 5), and shift count (5). The output shows the array after each of the 5 shifts: (5 1 2 3 4), (4 5 1 2 3), (3 4 5 1 2), (2 3 4 5 1), and (1 2 3 4 5).

```

1 import java.util.Scanner;
2 public class Arrays2
3 {
4     private static void shift(int[] a,int shift)
5     {
6         int y=1;
7         while(shift!=0)
8         {
9             int temp=a[a.length-1];
10            for(int i=a.length-2;i>=0;i--)
11            {
12                a[i+1]=a[i];
13            }
14            a[0]=temp;
15            System.out.print(y+" time shift =>   ");
16            for(int i:a)
17                System.out.print(i+" ");
18            shift--;
19            y++;
20            System.out.println("");
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc=new Scanner(System.in);
26        System.out.print("Enetr the size of an array : ");
27        int a[]={sc.nextInt()};
28        System.out.print("Enter the elements of array : ");
29        for(int i=0;i<a.length;i++)
30        {
31            a[i]=sc.nextInt();
32        }
33        System.out.print("Enter the times of shifts : ");
34        int shift=sc.nextInt();
35
36        shift(a,shift);
37    }

```

## Java program to find frequency of each element in the array.

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Arrays
3 {
4     public static void main(String[] args)
5     {
6         Scanner s=new Scanner(System.in);
7         System.out.println("Enter the size of an array : ");
8         int a[]={s.nextInt()};
9         System.out.println("Enter the elements of array : ");
10        for (int i=0;i<a.length;i++)
11        {
12            a[i]=s.nextInt();
13        }
14        for (int i=0;i<a.length;i++)
15        {
16            if (a[i]!=0)
17            {
18                int count=1;
19                for (int j=i+1;j<a.length;j++)
20                {
21                    if (a[i]==a[j] && a[i]!=0 && a[j]!=0)
22                    {
23                        a[j]=0;
24                        count++;
25                    }
26                }
27                System.out.println(a[i]+" is occurred "+count+" times.");
28            }
29        }
30    }
31 }
32

```

The terminal window shows the output of the program:

```

C:\java>java Arrays
Enter the size of an array :
5
Enter the elements of array :
1
22
1
22
5
1 is occurred 2 times.
22 is occurred 2 times.
5 is occurred 1 times.

C:\java>

```

*2<sup>nd</sup> type*

The screenshot shows a Java IDE interface with a code editor and a terminal window. The code in the editor is as follows:

```

1 import java.util.Scanner;
2 class Arrays3
3 {
4     public static void findFrequency(int[] a)
5     {
6         int [] freq=new int[a.length];
7         for (int i=0;i<a.length;i++)
8         {
9             freq[i]=1;
10            for (int j=i+1;j<a.length;j++)
11            {
12                if (a[i]==a[j] && a[i]!=0 && a[j]!=0)
13                {
14                    a[j]=0;
15                    freq[i]++;
16                }
17            }
18        }
19        for (int i=0;i<freq.length;i++)
20        {
21            if (freq[i]>0 && a[i]!=0)
22            {
23                System.out.println(a[i]+" is occurred "+freq[i]+" times.");
24            }
25        }
26    }
27    public static void main(String[] args)
28    {
29        Scanner s=new Scanner(System.in);
30        System.out.println("Enter the size of an array : ");
31        int a[]={s.nextInt()};
32        System.out.println("Enter the elements of array : ");
33        for (int i=0;i<a.length;i++)
34        {
35            a[i]=s.nextInt();
36        }
37        findFrequency(a);
38    }
39 }

```

The terminal window shows the output of the program:

```

C:\java>javac Arrays3.java
C:\java>java Arrays3
Enter the size of an array :
7
Enter the elements of array :
1 2 3 6 4 3 3
1 is occurred 1 times.
2 is occurred 1 times.
3 is occurred 3 times.
6 is occurred 1 times.
4 is occurred 1 times.

C:\java>

```

## Java program to print the duplicate elements of an array.

The screenshot shows a Java IDE interface with two tabs: 'Arrays.java' and 'Arrays2.java'. The 'Arrays2.java' tab contains the following code:

```

1 import java.util.Scanner;
2 public class Arrays2
3 {
4     public static void removeDuplicates(int a[])
5     {
6         System.out.print("Duplicate elements are : ");
7         for(int i=0;i<a.length;i++)
8         {
9             for(int j=i+1;j<a.length;j++)
10            {
11                if(a[i] == a[j] && a[j]!=-1)
12                {
13                    a[j]=-1;
14                    System.out.print(a[i]+" ");
15                }
16            }
17        }
18    }
19    public static void main(String[] args)
20    {
21        Scanner sc=new Scanner(System.in);
22        System.out.print("Enter the size of array : ");
23        int a[]=new int[sc.nextInt()];
24        System.out.print("Enter the elements of array : ");
25        for(int i=0;i<a.length;i++)
26        {
27            a[i]=sc.nextInt();
28        }
29        removeDuplicates(a);
30    }
31 }
32

```

To the right of the code is a terminal window showing the output of the program. It starts with 'C:\java>javac Arrays2.java', followed by 'C:\java>java Arrays2'. The user enters 'Enter the size of array : 6' and 'Enter the elements of array : 2 4 6 4 5 2'. The program outputs 'Duplicate elements are : 2 4'.

## Java program to remove duplicates from an array.

The screenshot shows a Java IDE interface with two tabs: 'Arrays.java' and 'Arrays2.java'. The 'Arrays2.java' tab contains the following code:

```

1 import java.util.Scanner;
2 public class Arrays2
3 {
4     public static void removeDuplicates(int a[])
5     {
6         int count=0;
7         for(int i=0;i<a.length;i++)
8         {
9             for(int j=i+1;j<a.length;j++)
10            {
11                if(a[i] == a[j] && a[j]!=-1)
12                {
13                    a[j]=-1;
14                    count++;
15                }
16            }
17        }
18        int b[] = new int[a.length-count];
19        int temp=0;
20        for(int i=0;i<a.length;i++)
21        {
22            if(a[i]!=-1)
23            {
24                b[temp++]=a[i];
25            }
26        }
27        System.out.print("Array after removing duplicates : ");
28        for(int i:b)
29            System.out.print(i+" ");
30    }
31    public static void main(String[] args)
32    {
33        Scanner sc=new Scanner(System.in);
34        System.out.print("Enter the size of array : ");
35        int a[]=new int[sc.nextInt()];
36        System.out.print("Enter the elements of array : ");
37        for(int i=0;i<a.length;i++)
38        {
39            a[i]=sc.nextInt();
40        }
41        removeDuplicates(a);
42    }
43 }
44

```

To the right of the code is a terminal window showing the output of the program. It starts with 'C:\java>javac Arrays2.java', followed by 'C:\java>java Arrays2'. The user enters 'Enter the size of array : 6' and 'Enter the elements of array : 1 3 2 3 3 1'. The program outputs 'Array after removing duplicates : 1 3 2'.

## Program to count the number of characters in String.

The screenshot shows a Java code editor with the file 'C:\java\Strings.java' open. The code defines a class 'Strings' with a static method 'countCharacters' that counts the number of non-space characters in a string. It also includes a 'main' method that prompts the user for a string and prints the character count. To the right, a 'Command Prompt' window shows the execution of the program, including the compilation ('javac Strings.java'), running ('java Strings'), entering the string 'I am a girl', and outputting the character count 'Number of characters are 8'.

```

1 // Program to the number of characters in String.
2 import java.util.Scanner;
3 class Strings
4 {
5     public static int countCharacters(String s)
6     {
7         int count=0;
8         for (int i=0;i<s.length();i++)
9         {
10             if (s.charAt(i)!=' ')
11             {
12                 count++;
13             }
14         }
15         return count;
16     }
17     public static void main(String[] args)
18     {
19         Scanner sc=new Scanner(System.in);
20         System.out.println("Enter a string");
21         String s=sc.nextLine();
22         System.out.println("Number of characters are "+countCharacters(s));
23     }
24 }

```

## Program to count the number of words in the String.

The screenshot shows a Java code editor with the file 'C:\java\Strings.java' open. The code defines a class 'Strings' with a static method 'countWords' that counts the number of words in a string based on spaces. It includes a 'main' method for user interaction. To the right, a 'Command Prompt' window shows the execution of the program, including the compilation ('javac Strings.java'), running ('java Strings'), entering the string 'I am a beautiful girl', and outputting the word count 'Number of words are 5'.

```

1 // Program to count the number of words in the String.
2 import java.util.Scanner;
3 class Strings
4 {
5     public static int countWords(String s)
6     {
7         int count=0;
8         for (int i=0;i<s.length();i++)
9         {
10             if (i==0 && s.charAt(i)!=' ' || (s.charAt(i)!=' ' && s.charAt(i-1)==' '))
11             {
12                 count++;
13             }
14         }
15         return count;
16     }
17     public static void main(String[] args)
18     {
19         Scanner sc=new Scanner(System.in);
20         System.out.println("Enter a string");
21         String s=sc.nextLine();
22         System.out.println("Number of words are "+countWords(s));
23     }
24 }

```

## Program to count total number of vowels and consonants in a String.

```

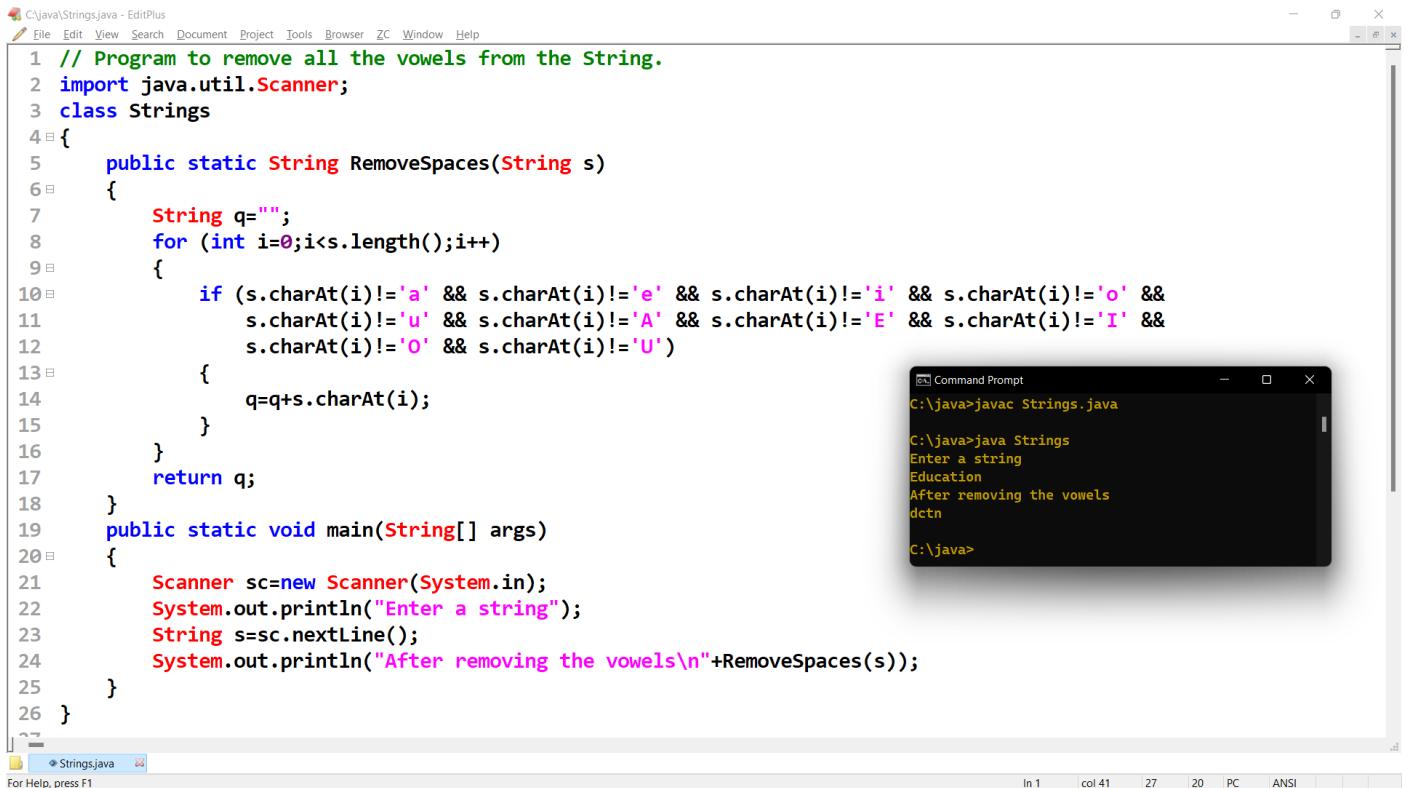
1 // Program to count the number of vowels and consonants in the String.
2 import java.util.Scanner;
3 class Strings
4 {
5     public static void countVowelsConsonants(String s)
6     {
7         int count1=0, count2=0;
8         for (int i=0;i<s.length();i++)
9         {
10             if (s.charAt(i)!=' ')
11             {
12                 if (s.charAt(i)=='a'||s.charAt(i)=='e'||s.charAt(i)=='i'||s.charAt(i)=='o'||s.charAt(i)=='u'||s.charAt(i)=='A'||s.charAt(i)=='E'||s.charAt(i)=='I'||s.charAt(i)=='O'||s.charAt(i)=='U')
13                 {
14                     count1++;
15                 }
16             }
17             else
18             {
19                 count2++;
20             }
21         }
22     }
23     System.out.println("Number of vowels are : "+count1);
24     System.out.println("Number of consonants are: "+count2);
25 }
26 public static void main(String[] args)
27 {
28     Scanner sc=new Scanner(System.in);
29     System.out.println("Enter a string");
30     String s=sc.nextLine();
31     countVowelsConsonants(s);
32 }
33 }
34 }
```

## Program to remove all the white spaces in a String.

```

1 // Program to remove all the white spaces in the String.
2 import java.util.Scanner;
3 class Strings
4 {
5     public static String RemoveSpaces(String s)
6     {
7         String q="";
8         for (int i=0;i<s.length();i++)
9         {
10             if (s.charAt(i)!=' ')
11             {
12                 q=q+s.charAt(i);
13             }
14         }
15         return q;
16     }
17     public static void main(String[] args)
18     {
19         Scanner sc=new Scanner(System.in);
20         System.out.println("Enter a string");
21         String s=sc.nextLine();
22         System.out.println("After removing the spaces\n"+RemoveSpaces(s));
23     }
24 }
```

## Program to remove all the vowels from the string.



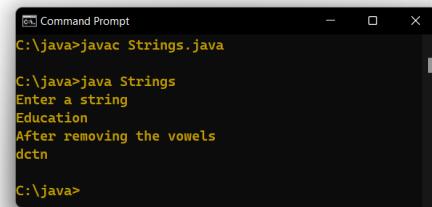
```

1 // Program to remove all the vowels from the String.
2 import java.util.Scanner;
3 class Strings
4 {
5     public static String RemoveSpaces(String s)
6     {
7         String q="";
8         for (int i=0;i<s.length();i++)
9         {
10            if (s.charAt(i)!='a' && s.charAt(i)!='e' && s.charAt(i)!='i' && s.charAt(i)!='o' &&
11                s.charAt(i)!='u' && s.charAt(i)!='A' && s.charAt(i)!='E' && s.charAt(i)!='I' &&
12                s.charAt(i)!='O' && s.charAt(i)!='U')
13            {
14                q=q+s.charAt(i);
15            }
16        }
17        return q;
18    }
19    public static void main(String[] args)
20    {
21        Scanner sc=new Scanner(System.in);
22        System.out.println("Enter a string");
23        String s=sc.nextLine();
24        System.out.println("After removing the vowels\n"+RemoveSpaces(s));
25    }
26 }

```

For Help, press F1

In 1 col 41 27 20 PC ANSI

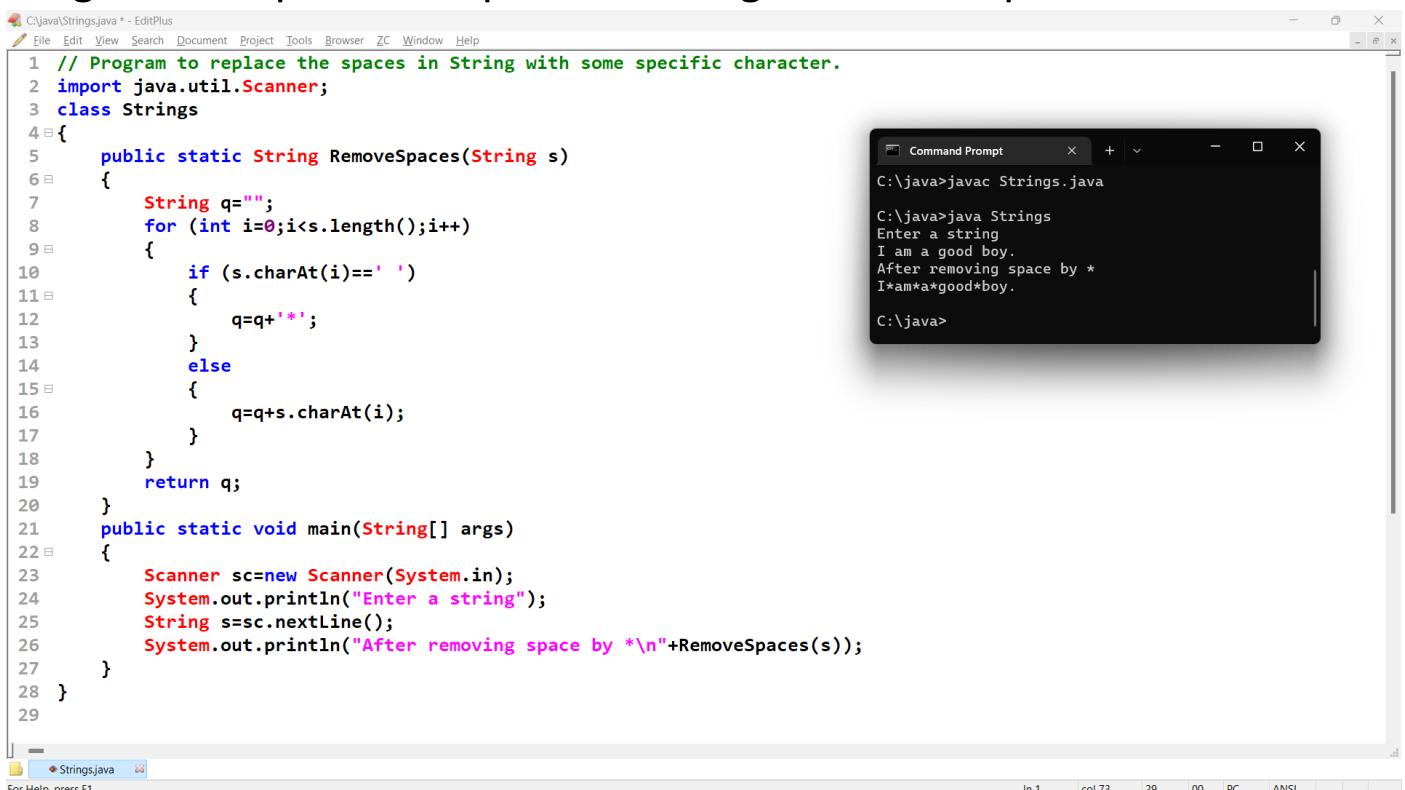


```

C:\java>javac Strings.java
C:\java>java Strings
Enter a string
Education
After removing the vowels
dctn
C:\java>

```

## Program to replace the spaces in String with some specific character.



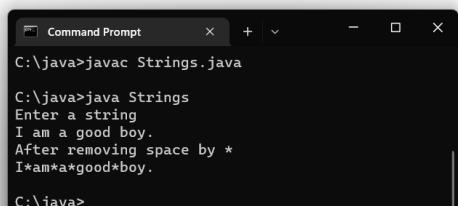
```

1 // Program to replace the spaces in String with some specific character.
2 import java.util.Scanner;
3 class Strings
4 {
5     public static String RemoveSpaces(String s)
6     {
7         String q="";
8         for (int i=0;i<s.length();i++)
9         {
10            if (s.charAt(i)==' ')
11            {
12                q=q+"*";
13            }
14            else
15            {
16                q=q+s.charAt(i);
17            }
18        }
19        return q;
20    }
21    public static void main(String[] args)
22    {
23        Scanner sc=new Scanner(System.in);
24        System.out.println("Enter a string");
25        String s=sc.nextLine();
26        System.out.println("After removing space by *\n"+RemoveSpaces(s));
27    }
28 }

```

For Help, press F1

In 1 col 73 29 00 PC ANSI



```

C:\java>javac Strings.java
C:\java>java Strings
Enter a string
I am a good boy.
After removing space by *
I*am*a*good*boy.
C:\java>

```

## Program to find the reverse of the String.

The screenshot shows a Java code editor and a terminal window. The code editor displays a Java program named 'Strings.java' with syntax highlighting. The terminal window shows the execution of the program, prompting for input and displaying the reversed string.

```
1 // Program to find the reverse of the String.
2 import java.util.Scanner;
3 class Strings
4 {
5     public static String reverse(String s)
6     {
7         String q="";
8         for (int i=s.length()-1;i>=0;i--)
9         {
10             q=q+s.charAt(i);
11         }
12         return q;
13     }
14     public static void main(String[] args)
15     {
16         Scanner sc=new Scanner(System.in);
17         System.out.print("Enter a string : ");
18         String s=sc.nextLine();
19         System.out.println("Reverse of string : "+reverse(s));
20     }
21 }
```

For Help, press F1

File Edit View Document Project Tools Browser ZC Window Help

Command Prompt

C:\java>javac Strings.java

C:\java>java Strings

Enter a string : Master motor

Reverse of string : rotom retsaM

C:\java>

Program to determine whether string is palindrome or not.

Program to determine whether two Strings are anagram.

Program to find minimum and maximum occurring character in a String.

Write a program to find the sum of numbers in an ALPHA NUMERIC STRING?

Write a program to count number of LOWERCASE, UPPERCASE, SPECIAL SYMBOLS and DIGITAL NUMBERS.

write a program to convert UPPER CASE TO LOWER CASE?

Write a program to convert LOWER CASE TO UPPER CASE?

Program to find the duplicate words in a string

Program to find the frequency of characters.

Program to find the largest and smallest word in a string.

Program to print smallest and biggest possible palindrome word in a given String.

Reverse String in Java Word by Word.