**1.Write a program that takes a number from the user between 1 to 12 and displays the name of the month.**

package practiceExercise1.

import java.util.Scanner;

**package** com.Day\_1.Practice;

**import** java.util.Scanner;

**public** **class** Calender {

**public** **static** **void** main(String [] args) {

Scanner sc= **new** Scanner (System.***in***);

System.***out***.println(" Enter the input:");

**int** value=sc. nextInt ();

**switch**(value) {

**case** 1:

System.***out***.println("January");

**break**;

**case** 2:

System.***out***.println("February");

**break**;

**case** 3:

System.***out***.println("March");

**break**;

**case** 4:

System.***out***.println("April");

**break**;

**case** 5:

System.***out***.println("May");

**break**;

**case** 6:

System.***out***.println("June");

**break**;

**case** 7:

System.***out***.println("July");

**break**;

**case** 8:

System.***out***.println("August");

**break**;

**case** 9:

System.***out***.println("September");

**break**;

**case** 10:

System.***out***.println("October");

**break**;

**case** 11:

System.***out***.println("November");

**break**;

**case** 12:

System.***out***.println("December");

**break**;

**default**:

System.***err***.println("invalid Data ");

}

}

}

**2. Write a program to display calculated result of two numbers based on the mathematical operator entered.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** operator {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the first number: ");

**int** num1 = sc. sc.nextInt ();

System.***out***.print("Enter the second number: ");

**int** num2 = sc.nextInt();

System.***out***.print("Enter the operator (+, -, \*, /): ");

**char** operator = sc.next().charAt(0);

**int** result;

**if** (operator == '+') {

result = num1 + num2;

}

**else** **if** (operator == '-')

{

result = num1 - num2;

}

**else** **if** (operator == '\*')

{

result = num1 \* num2;

}

**else** **if** (operator == '/')

{

**if** (num2 != 0)

{

result = num1 / num2;

}

**else**

{

System.***out***.println("Division by zero is not allowed ");

**return**;

}

}

**else**

{

System.***out***.println("Invalid operator.");

**return**;

}

System.***out***.println("result : " + result);

}

}

**3. Write a Program to check the grade based on marks obtained by students.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Gradeon\_marks {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println(" enter the Marks to display grade :");

**int** n=sc.nextInt();

**if**(n>=60)

{

System.***out***.println(" The Student Secured 'A'");

}

**else** **if**(n<60 && n>=45)

{

System.***out***.println("The student Secured 'B' ");

}

**else** **if**(n<45 && n>=35)

{

System.***out***.println("The student Secured 'C' ");

}

**else** **if**(n<35)

{

System.***out***.println("The student Secured 'D' ");

}

**else**

System.***err***.println("Please enter the Valid Data between 1 to 100");

}

}

**4. Write a program to add two complex number**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Complex {

**public** **static** **void** main(String[] args) {

System.***out***.println("Complex Addition");

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the first complex number (in the form a+bi): ");

String firstNumber = sc.nextLine();

System.***out***.print("Enter the second complex number (in the form a+bi): ");

String secondNumber = sc.nextLine();

String[] parts1 = firstNumber.split("\\+");

**int** a1 = Integer.*parseInt*(parts1[0].trim());

**int** b1 = Integer.*parseInt*(parts1[1].replace("i", "").trim());

String[] parts2 = secondNumber.split("\\+");

**int** a2 = Integer.*parseInt*(parts2[0].trim());

**int** b2 = Integer.*parseInt*(parts2[1].replace("i", "").trim());

**int** realPart = a1 + a2;

**int** imaginaryPart = b1 + b2;

System.***out***.println("The sum of the complex numbers is: " + realPart + "+" + imaginaryPart + "i");

}

}

**5. Write a program to check if a given integer is Odd or Even**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** EvenOrOdd {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println(" Enter a Number ");

**int** n=sc.nextInt();

**if**(n%2==0)

{

System.***out***.println("Number "+n+ " is "+" Even NUmber ");

}

**else**

System.***out***.println("Number "+n+ " is "+" odd Number ");

}

}

**6. Write a program to find the largest of three numbers**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Largest\_Number {

**public** **static** **void** main(String[] args) {

System.***out***.println("Greatest Number Among them ");

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println(" Enter the number a :");

**int** a=sc.nextInt();

System.***out***.println(" Enter the number b :");

**int** b=sc.nextInt();

System.***out***.println(" Enter the number c :");

**int** c=sc.nextInt();

**if**((a==b)&& (b==c))

{

System.***out***.println(" The given Numbers are Equal");

}

**else** **if** ((a>b)&&(a>c))

{

System.***out***.println("Among the Numbers "+a +" is Greatest");

}

**else** **if**(b>c)

{

System.***out***.println("Among the Numbers "+b +" is Greatest");

}

**else**

{

System.***out***.println("Among the Numbers "+c +" is Greatest");

}

}

}

**7. Write a program to find LCM of two numbers.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Lcm\_of\_Numbers {

**public** **static** **int** gcd(**int** a, **int** b)

{

**while** (b != 0)

{

**int** temp = b;

b = a % b;

a = temp;

}

**return** a;

}

**public** **static** **int** lcm(**int** a, **int** b)

{

**return** Math.*abs*(a \* b) / *gcd*(a, b);

}

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter two numbers: ");

**int** num1 = sc.nextInt();

**int** num2 = sc.nextInt();

**int** resultLCM = *lcm*(num1, num2);

System.***out***.println("LCM is " + resultLCM);

}

}

**8. Write a program to find GCD or HCF of two numbers.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** gcd {

**public** **static** **int** findGCD(**int** a, **int** b) {

**while** (b != 0) {

**int** temp = b;

b = a % b;

a = temp;

}

**return** a;

}

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter two integers: ");

**int** num1 = sc.nextInt();

**int** num2 = sc.nextInt();

**int** hcf = *findGCD*(num1, num2);

System.***out***.println("HCF is " + hcf);

}

}

**9. Write a program to find all the prime numbers from 1 to N.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** PrimeNumber\_upto\_N {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println(" Enter the Number :");

**int** n=sc.nextInt();

**for**(**int** j=1;j<=n;j++)

{

**int** count=0;

**for**(**int** i=1;i<=j;i++)

{

**if**(j%i==0)

{

count ++;

}

}

**if**(count==2)

{

System.***out***.print(j);

}

}

}

}

}

**10. Write a program to find whether a given year is a Leap Year or not**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** LeaP\_Year {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println(" Enter the number tpo calculate the Leap Or Not :");

**int** n= sc.nextInt();

**if**((n%4==0 && n%100!=0)||(n%400==0))

{

System.***out***.println("The given year "+n+" is a Leap Year");

}

**else**

System.***out***.println("The given year "+n+" is a Non-Leap Year");

}

}

**11. Write a program to check whether a character is Vowel or Consonant**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Check\_Vowels\_or\_Not {

**public** **static** **void** main(String[] args) {

System.***out***.println("Vowel Or Not");

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println(" Enter the Character to check the vowels or not :");

**char** ch=sc.next().charAt(0);

**if**(ch=='a'|| ch=='e'|| ch=='i'|| ch=='o'||ch=='u'||

ch=='A'||ch=='E'||ch=='I'||ch=='O'||ch=='U')

{

System.***out***.println(" The Character "+ch +" is an Vowel");

}

**else**

System.***out***.println("The Character "+ch +" is a Consonent");

}

}

**12. Write a program to calculate simple interest.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Simple\_Intrest {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println("Enter the rate of Intrest :");

**int** r=sc.nextInt();

System.***out***.println("Enter the time / Tenure : ");

**int** t= sc.nextInt();

System.***out***.println("Enter the principle Amount :");

**int** p=sc.nextInt();

**int** res= (p\*t\*r)/100;

System.***out***.println("the Simple Intrest is :"+res);

}

}

**13. Write a program to calculate compound interest.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Compound\_Intrest {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println("Enter the rate of intrest :");

**int** r=sc.nextInt();

System.***out***.println("Enter the time/Tenure :");

**int** t=sc.nextInt();

System.***out***.println("Enter the principle Amount : ");

**int** p=sc.nextInt();

**int** CI=p\*(1 + r/100)\*t;

System.***out***.println("the Compound Intrest is : "+ CI);

}

}

**14. Write a program to find the perimeter of a Rectangle.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Perimeter\_Rectangle {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the length of the rectangle: ");

**int** length = sc.nextInt();

System.***out***.print("Enter the breadth of the rectangle: ");

**int** breadth = sc.nextInt();

**int** perimeter = 2 \* (length + breadth);

System.***out***.println("Perimeter of the rectangle: " + perimeter);

}

}

**15. Write a program that prompts the user to input an integer and then outputs the number with the digits reversed.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** IntReverse {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter an integer: ");

**int** number = sc.nextInt();

sc.close();

String numberStr = Integer.*toString*(number);

String reversedStr = **new** StringBuilder(numberStr).reverse().toString();

System.***out***.println("Reversed number: " + reversedStr);

}

}

**16. Write a program to accept two numbers and find the power of each (Do not use Java built-in method)**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Power {

**public** **static** **int** power(**int** base, **int** exponent) {

**int** result = 1;

**for** (**int** i = 0; i < exponent; i++)

{

result \*= base;

}

**return** result;

}

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter base and exponent: ");

**int** base = sc.nextInt();

**int** exponent = sc.nextInt();

**int** result = *power*(base, exponent);

System.***out***.println("Result: " + result);

}

}

**17. Write a program to check Armstrong number between two integers.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** AmstrongNumber {

**public** **static** **boolean** isArmstrong(**int** number) {

**int** sum= 0;

**int** originalNumber = number;

**int** numDigits = String.*valueOf*(number).length();

**while** (number > 0) {

**int** digit = number % 10;

sum += Math.*pow*(digit, numDigits);

number /= 10;

}

**return** sum == originalNumber;

}

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the range: ");

**int** lowerBound = sc.nextInt();

**int** upperBound = sc.nextInt();

System.***out***.println("Armstrong numbers between " + lowerBound + " and " + upperBound + ":");

**for** (**int** num = lowerBound; num <= upperBound; num++) {

**if** (*isArmstrong*(num)) {

System.***out***.println(num);

}

}

}

}

**18. Write a program to check if a number is Neon Number or Not**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** NeonNumber {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter a number to check if it's a Neon number: ");

**int** number = sc.nextInt();

**if** (*isNeonNumber*(number))

{

System.***out***.println(number + " is a Neon number.");

}

**else** {

System.***out***.println(number + " is not a Neon number.");

}

}

**public** **static** **boolean** isNeonNumber(**int** num) {

**int** square = num \* num;

**int** sumOfDigits = 0;

**while** (square > 0) {

sumOfDigits += square % 10;

square /= 10;

}

**return** sumOfDigits == num;

}

}

**19. Write a program to find the factorial of a given number**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Factorial {

**public** **static** **void** main(String[] args) {

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println(" enter the number For Factorial:");

**int** n= sc.nextInt();

**int** fact=1;

**for**(**int** i=1;i<=n;i++)

{

fact\*=i;

}

System.***out***.println("The factorial of "+n+"is "+fact);

}

}

**20. Write a program to find the sum of Fibonacci Series numbers of first N even indexes.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** Fabonacii\_Even\_IndexSeries {

**static** **int** Fib\_Even\_Sum(**int** N)

{

**if** (N <= 0)

**return** 0;

**int** fib[] = **new** **int**[2 \* N + 1];

fib[0] = 0;

fib[1] = 1;

**int** s = 0;

**for** (**int** j = 2; j <= 2 \* N; j++) {

fib[j] = fib[j - 1] + fib[j - 2];

**if** (j % 2 == 0)

s += fib[j];

}

**return** s;

}

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter a number: ");

**int** n = sc.nextInt();

System.***out***.println( "Even sum of fibonacci series till number " + n + " is: " + +*Fib\_Even\_Sum*(n));

}

}

**21. Write a program to print right triangle star pattern**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** RightangletTriangle {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++) {

**for** (**int** j = 1; j <= i; j++) {

System.***out***.print(" \* ");

}

System.***out***.println();

}

}

}

**22. Write a program to print reverse pyramid star pattern.**

package practiceExercise1.

**import** java.util.Scanner;

**public** **class** ReversePyramid {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the number of rows for the reverse pyramid: ");

**int** rows = sc.nextInt();

**for** (**int** i = rows; i >= 1; i--) {

**for** (**int** j = 0; j < rows - i; j++) {

System.***out***.print(" ");

}

**for** (**int** k = 0; k < (2 \* i - 1); k++) {

System.***out***.print("\*");

}

System.***out***.println();

}

}

}

**23. Write a program to print upper star triangle pattern.**

**package** practiceExercise1.

**import** java.util.Scanner;

**public** **class** Upperstar {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++) {

**for** (**int** j = 1; j <= rows - i; j++) {

System.***out***.print(" ");

}

**for** (**int** k = 1; k <= i; k++) {

System.***out***.print("\*");

}

System.***out***.println();

}

}

}

**24. Write a program to print diamond shape star pattern**

**package** practiceExercise1.

**import** java.util.Scanner;

**public** **class** Diamond {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print("Enter the number of rows for the diamond pattern: ");

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++) {

**for** (**int** j = i; j < rows; j++) {

System.***out***.print(" ");

}

**for** (**int** k = 1; k <= (2 \* i - 1); k++) {

System.***out***.print("\*");

}

System.***out***.println();

}

**for** (**int** i = rows - 1; i >= 1; i--) {

**for** (**int** j = rows; j > i; j--) {

System.***out***.print(" ");

}

**for** (**int** k = 1; k <= (2 \* i - 1); k++) {

System.***out***.print("\*");

}

System.***out***.println();

}

}

}

**25. Write a program to print square star pattern**

**package** practiceExercise1.

**import** java.util.Scanner;

**public** **class** squreStar {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.print ("Enter number of rows: ");

**int** rows=sc.nextInt();

System.***out***.print("Enter number of columns: ");

**int** cols = sc.nextInt();

*printRectanglePattern*(rows,cols);

}

**public** **static** **void** printRectanglePattern(**int** rows, **int** cols) {

**for** (**int** i=0;i<rows;i++) {

**for** (**int** j=0; j<cols; j++) {

**if** (i==0 || i==rows-1 || j==0 || j==cols - 1) {

System.***out***.print("\*");

}

**else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

}