| **Roll No.: A032** | **Name:** Ninad Jamkar |
| --- | --- |
| **Prog/Yr/Sem:**  Sem 4 | **Batch:** Batch 2 |
| **Date of Experiment:**  11/01/23 | **Date of Submission:** 11/01/23 |

**Task 1:**

| 1. | WAP to display the List of even numbers |
| --- | --- |
| 2. | WAP to calculate sum of digits of a number |
| 3. | WAP to Compare Two Numbers using else-if |
| 4. | WAP to determine If Year Is Leap Year |
| 5 | WAP to check Palindrome Number |
| 6 | WAP Generate prime numbers between 1 & given number |
| 7 | WAP Reversed pyramid using for loops & decrement operator. |
| 8 | WAP to display a color name depending on color value using switch. |
| 9 | WAP to find average of consecutive N Odd numbers and even numbers. |
| 10 | WAP for Accepting single character, int, float, string and double value from the keyboard. |

// OOPs Experiment 1

//Q1)

public class Main {

public static void main(String[] args) {

System.*out*.println("List of even numbers = ")**;**

for (int i=**0;** i<=**101;** i++) {

if(i%**2**==**0**) {

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

}

}

}

}

Q1)

OUTPUT :-

List of even numbers =

0

2

4

6

8

10

12

14

16

18

20

22

24

26

28

30

32

34

36

38

40

42

44

46

48

50

52

54

56

58

60

62

64

66

68

70

72

74

76

78

80

82

84

86

88

90

92

94

96

98

100

Process finished with exit code 0

//Q2)

import java.util.Scanner**;**

public class Main {

public static void main(String[] args) {

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

System.*out*.println("Enter num1 = ")**;**

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

System.*out*.println("Enter num2 = ")**;**

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

int sum = num1 + num2**;**

System.*out*.println("The sum of "+ num1 +" and "+ num2 +" = "+ sum)**;**

}

}

Q2)

OUTPUT :-

Enter num1 =

15

Enter num2 =

25

The sum of 15 and 25 = 40

//Q3)

import java.util.Scanner**;**

public class Main {

public static void main(String[] args) {

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

System.*out*.println("Enter num1 = ")**;**

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

System.*out*.println("Enter num2 = ")**;**

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

if (num1 < num2) {

System.*out*.println(num2+" is greater than "+num1)**;**

}

else {

System.*out*.println(num1+" is greater than "+num2)**;**

}

}

}

Q3)

OUTPUT :-

Enter num1 =

14

Enter num2 =

15

15 is greater than 14

//Q4)

import java.util.Scanner**;**

public class Main {

public static void main(String[] arg) {

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

System.*out*.println("Enter year = ")**;**

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

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

System.*out*.println(year +" is a leap year")**;**

}

else {

System.*out*.println(year +" is not a leap year.")**;**

}

}

}

Q4)

OUTPUT :-

Enter year =

2016

2016 is a leap year

//Q5)

import java.util.Scanner**;**

public class Main{

public static void main(String args[]){

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

int r**,**sum=**0,**temp**;**

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

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

temp=n**;**

while(n>**0**){

r=n%**10;**

sum=(sum\***10**)+r**;**

n=n/**10;**

}

if(temp==sum)

System.*out*.println("palindrome number ")**;**

else

System.*out*.println("not palindrome")**;**

}

}

Q5)

OUTPUT :-

Enter a number =

454

palindrome number

//Q6)

import java.util.Scanner**;**

public class Main{

public static void main(String arg[]){

int i**,**n**,**c**,** j**;**

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

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

n=scanner.nextInt()**;**

System.*out*.print("Prime numbers between 1 to "+n+" are = ")**;**

for(j=**2;**j<=n**;**j++){

c=**0;**

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

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

c++**;**

}

}

if(c==**2**)

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

}

}

}

Q6)

OUTPUT :-

Enter the n value : 50

Prime numbers between 1 to 50 are = 2 3 5 7 11 13 17 19 23 29 31 37 41 43 47

//Q7)

public class Main {

public static void main (String[] args) {

int number = **7;**

int i**,** j**;**

for(i = number**;** i >= **1;** i--)

{

for(j = i**;** j < number**;** j++)

{

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

}

for(j = **1;** j <= (**2** \* i - **1**)**;** j++)

{

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

}

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

}

}

}

Q7)

OUTPUT :-

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

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

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

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

\*\*\*\*\*

\*\*\*

\*

//Q8)

import java.util.Scanner**;**

public class Main {

public static void main(String args[]) {

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

System.*out*.println("VIBGYOR Spectrum")**;**

System.*out*.println("Enter your colour choice: ")**;**

char choice = in.next().charAt(**0**)**;**

switch (choice) {

case 'V':

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

break**;**

case 'I':

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

break**;**

case 'B':

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

break**;**

case 'G':

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

break**;**

case 'Y':

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

break**;**

case 'O':

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

break**;**

case 'R':

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

break**;**

default:

System.*out*.println("Incorrect choice")**;**

}

}

}

Q8)

OUTPUT :-

VIBGYOR Spectrum

Enter your colour choice:

G

Green

//Q9

public class Main {

public static void main(String[] args) {

int n = **5;**

int sumOdd = **0;**

int sumEven = **0;**

int oddCount = **0;**

int evenCount = **0;**

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

if (i % **2** == **0**) {

sumEven += i**;**

evenCount++**;**

}

else {

sumOdd += i**;**

oddCount++**;**

}

}

System.*out*.println("Average of " + oddCount + " odd numbers is: " + (sumOdd / oddCount))**;**

System.*out*.println("Average of " + evenCount + " even numbers is: " + (sumEven / evenCount))**;**

}

}

Q9)

OUTPUT :-

Average of 5 odd numbers is: 5

Average of 5 even numbers is: 6

**HOMEWORK QUESTIONS ➖**

1. **If you have the source code for a Java program, and you want to run that program, you will need both a compiler and an interpreter. What does the Java compiler do, and what does the Java interpreter do?**

**Ans)** A Java compiler is a program that takes the text file work of a developer and compiles it into a platform-independent Java file. A Java interpreter is used to run the compiled Java bytecode program.

1. **What is a subroutine?**

**Ans)** A set of instructions that are used repeatedly in a program can be referred to as Subroutine.

1. **Java is an object-oriented programming language. What is an object?**

**Ans)** Object is an instance of a class. Each object has an identity, a behavior and a state. The state of an object is stored in fields (variables), while methods (functions) display the object's behaviour.

1. **What is a variable? (There are four different ideas associated with variables in Java. Try to mention all four aspects in your answer. Hint: One of the aspects is the variable’s name.)**

**Ans)** A variable is the name of a reserved area allocated in memory.

1. **Java is a “platform-independent language.” What does this mean?**

**Ans)** Java is a platform-independent language, which means that Java programs can run on any device that has a Java Virtual Machine (JVM) installed, regardless of the hardware and operating system of the device.