**Core java assignment-1**

**[1] ANS:-**

import java.util.Scanner;

// program to check the given number is armstrong or not...

public class armstrong {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int num, sum = 0;

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

num = sc.nextInt();

int temp = num;

while (num > 0) {

int r = num % 10;

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

num = num / 10;

}

if (temp == sum) {

System.out.println(temp + " is a armstrong number.");

} else {

System.out.println(temp + " is not armstrong number.");

}

}

}

**[2] ANS:-**

public class armstrong {

public static void main(String[] args) {

for (int i = 100; i < 1000; i++) {

if (checkArmstrong(i))

System.out.println(i + " ");

}

}

public static boolean checkArmstrong(int n) {

int sum = 0;

int temp = n;

while (n > 0) {

int r = n % 10;

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

n = n / 10;

}

if (temp == sum)

return true;

else

return false;

}

}

**[3]ANS:-**

import java.util.Scanner;

public class sici {

public static void main(String[] args) {

double price, rate, time, simpleInterest, compoundInterest;

Scanner sc = new Scanner(System.in);

System.out.println("Enter price:");

price = sc.nextDouble();

System.out.println("Enter time:");

time = sc.nextDouble();

System.out.println("Enter rate of interest:");

rate = sc.nextDouble();

simpleInterest = (price \* time \* rate) / 100;

compoundInterest = price \* Math.pow(1.0 + rate / 100.0, time) - price;

System.out.println("Simple Interest: " + simpleInterest);

System.out.println("Compound Interest: " + compoundInterest);

}

}

**[4] ANA:-**

import java.util.Scanner;

public class result {

public static void main(String[] args) {

int a, b, c;

System.out.println("Enter subject marks:");

Scanner sc = new Scanner(System.in);

a = sc.nextInt();

b = sc.nextInt();

c = sc.nextInt();

if (a > 60 && b > 60 && c > 60)

System.out.println("Passed");

else if ((a > 60 && b > 60) || (b > 60 && c > 60) || (a > 60 && c > 60))

System.out.println("Promoted");

else if (a < 60 && b < 60 && c < 60)

System.out.println("Failed");

}

}

**[5]ANS:-**

import java.util.Scanner;

public class incomeTax {

public static void main(String[] args) {

double ctc, tax;

Scanner sc = new Scanner(System.in);

System.out.println("Enter ctc:");

ctc = sc.nextDouble();

if (ctc >= 0 && ctc <= 180000) {

System.out.println("Nil");

} else if (ctc > 180000 && ctc <= 300000) {

tax = ctc \* (10.0 / 100.0);

System.out.println(tax);

} else if (ctc > 300000 && ctc <= 500000) {

tax = ctc \* (20.0 / 100.0);

System.out.println(tax);

} else if (ctc > 500000 && ctc <= 1000000) {

tax = ctc \* (30.0 / 100.0);

System.out.println(tax);

}

}

}

**[6]ANS:-**

import java.util.Scanner;

public class login\_page {

public static void main(String[] args) {

int i;

Scanner sc = new Scanner(System.in);

System.out.println("Enter username:");

String uname = sc.nextLine();

System.out.println("Enter password:");

String upass = sc.nextLine();

System.out.println("Registered Succesfully...");

System.out.println("---LOGIN---");

for (i = 0; i < 3; i++) {

System.out.print("USERNAME:");

String name = sc.nextLine();

System.out.print("PASSWORD:");

String pass = sc.nextLine();

if (uname.equals(name) && upass.equals(pass)) {

System.out.println("Welcome " + uname);

break;

}

System.out.println("INVALID USER\n");

}

if (i == 3) {

System.out.println("Contact Admin");

}

}

}

**[7]ANS:-**

public class search {

public static void main(String[] args) {

int arr[] = {5, 12, 14, 6, 78, 19, 1, 23, 26, 35, 37, 7, 52, 86, 47};

int search = 19;

int first = 0;

int last = arr.length - 1;

int mid = (first + last) / 2;

while (first <= last) {

if (arr[mid] == search) {

System.out.println("Element found at index: " + mid);

break;

} else if (arr[mid] < search) {

first = mid + 1;

} else {

last = mid - 1;

}

mid = (first + last) / 2;

}

}

}

**[8]ANS:-**

public class bubleSort {

public static void main(String[] args) {

int arr[] = {5, 12, 14, 6, 78, 19, 1, 23, 26, 35, 37, 7, 52, 86, 47};

int len = arr.length;

int temp;

for (int i = 0; i < len; i++) {

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

if (arr[j - 1] > arr[j]) {

temp = arr[j - 1];

arr[j - 1] = arr[j];

arr[j] = temp;

}

}

}

for (int k = 0; k < len; k++) {

System.out.print(arr[k] + " ");

}

}

}

**[9]ANS:-**

import java.util.Scanner;

public class marks {

public static void main(String[] args) {

int a[] = new int[3];

int b[] = new int[3];

int c[] = new int[3];

Scanner sc = new Scanner(System.in);

System.out.println("Enter marks for subject a:");

for (int i = 0; i < 3; i++) {

a[i] = sc.nextInt();

}

System.out.println("Enter marks for subject b:");

for (int i = 0; i < 3; i++) {

b[i] = sc.nextInt();

}

System.out.println("Enter marks for subject c:");

for (int i = 0; i < 3; i++) {

c[i] = sc.nextInt();

}

int total = 0;

for (int i = 0; i < 3; i++) {

total = total + a[i];

}

double avg = total / 3;

System.out.println("for subject a:-\n total marks: " + total + " average marks: " + avg);

total = 0;

for (int i = 0; i < 3; i++) {

total = total + b[i];

}

avg = total / 3;

System.out.println("for subject b:-\n total marks: " + total + " average marks: " + avg);

total = 0;

for (int i = 0; i < 3; i++) {

total = total + c[i];

}

avg = total / 3;

System.out.println("for subject c:-\n total marks: " + total + " average marks: " + avg);

}

}