1)Caesar program

class Caeser {

String plain;

int key;

Caeser(String text,int k)

{

plain =text;

key =k;

}

String encrypt()

{

String out="";char ch;

for(int i=0;i<plain.length();i++)

{

if(Character.isUpperCase(plain.charAt(i)))

ch=(char)(((int)plain.charAt(i)-97+key)%26+97);

else

ch=(char)(((int)plain.charAt(i)-97+key)%26+97);

out =out+ch;

}

return out;

}

public static void main(String[] args) {

Caeser c=new Caeser("welcome",7);

String out=c.encrypt();

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

}

}

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2) Substitution program

class Substitution{

String plain;

Subsitution (String text)

{

plain =text;

}

String encrypt()

{

String alpha="abcdefghijklmnopqrstuvwxyz";

String sub="mnbvcxzlkjhgfdsapoiuytrewq";

String out="";

for(int i=0;i<plain.length();i++)

{

char ch=plain.charAt(i);

int p=alpha.indexOf(ch);

char chr=sub.charAt(p);

out =out+chr;

}

return out;

}

public static void main(String[] args) {

Subsitution c=new Subsitution("malusss");

String out=c.encrypt();

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

}

}

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3)Latin program

class LatinCipher

{

static void cipher(String str)

{

for (int i = 0; i < str.length(); i++)

{

if (!Character.isLetter(str.charAt(i)) &&

str.charAt(i) != ' ')

{

return;

}

}

for (int i = 0; i < str.length(); i++)

{

if (str.charAt(i) >= 'A' && str.charAt(i) <= 'Z')

{

System.out.print(str.charAt(i) - 'A' + 1 + " ");

}

else if (str.charAt(i) >= 'a' && str.charAt(i) <= 'z')

{

System.out.print(str.charAt(i) - 'a' + 1 + " ");

}

if (str.charAt(i) == ' ')

System.out.print(str.charAt(i));

}

System.out.println();

}

public static void main(String[] args)

{

String str = "malini";

cipher(str);

}

}

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4)Xor program

class Xor{

String plain;

char key;

Xor (String text,char k)

{

plain =text;

key =k;

}

String encrypt()

{

String out="";char ch;

for(int i=0;i<plain.length();i++)

{

ch =(char)((int)plain.charAt(i)^(int)key);

out =out+ch;

}

return out;

}

public static void main(String[] args) {

Xor c=new Xor("malini",'S');

String out=c.encrypt();

System.out.println(" encryption: "+out);

}

}

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5)Box program

Class Box{

private double width;

private double height;

private double length;

public Box(double w, double h, double l)

{

width =w; height=h;length=l;

}

public Box(){

width=-1;height=-1;length=-1;

}

double volume(){

return width\* height\*length;

}

}

class BoxWeight extends Box

{

double weight;

BoxWeight(double w, double h, double l,double we){

super(w,h,l);// call super class parameterized constructor

weight=we;

}

BoxWeight(){

super();//call base class default

}

}

public class Main{

public static void main(String[] args){

BoxWeight b1=new BoxWeight(2.9,4.5,2.6,7.8);

BoxWeight b2=new BoxWeight();

double d=b1.volume();

System.out.println("Volume of b1= "+d);

d=b2.volume();

System.out.println("Volume of b2= "+d);

}

}

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6)Date program

class Date {

int day ;

int month ;

int year ;

public Date ( int d , int m , int y) {

if(m<13 && d<31){

month = m; day=d; year=y;

}

else{

System.out.println("incorrect date");

}

}

void setMonth(int m){

if(m<13)

month=m;

else

System.out.println("incorrect format");

}

void setDay(int d){

if(d<31)

day=d;

else

System.out.println("incorrect format");

}

void setYear(int y){

if((y/10000)==0)

year=y;

else

System.out.println("incorrect format");

}

int getMonth(){

return month;

}

int getDay(){

return day;

}

int getYear(){

return year;

}

void display () {

System.out.println("The date is " + day +"/" + month + "/" + year);

}

}

public class Main

{

public static void main(String[] args) {

Date d1 = new Date(16,9,2020);

d1.display();

d1.setDay(15);

d1.setMonth(9);

d1.setYear(2020);

}

}

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7) Savings account program

class SavingsAccount{

static float AnnualIntrestrate = (float)8.5;

private float SavingsBalance;

void caluclateMonthlyIntrest(){

float intrest = ((SavingsBalance\*AnnualIntrestrate)/12);

SavingsBalance+=intrest;

System.out.println("balance is " + SavingsBalance);

}

static void ModifyIntrestrate(float rate){

AnnualIntrestrate=rate;

}

public SavingsAccount(float balance){

SavingsBalance=balance;

}

}

public class Main

{

public static void main(String[] args) {

SavingsAccount s1 = new SavingsAccount(2000.0f);

SavingsAccount s2 = new SavingsAccount(3000.0f);

s1.caluclateMonthlyIntrest();

s2.caluclateMonthlyIntrest();

SavingsAccount.ModifyIntrestrate(5.0f);

s1.caluclateMonthlyIntrest();

s2.caluclateMonthlyIntrest();

}

}

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8) Employee program

class Employee{

String firstname;

String lastname;

double salary;

public Employee(String fn,String ln,double sal){

firstname = fn;

lastname = ln;

if(salary<0){

salary=0.0;

}

else{

salary = sal;

}

}

void setFn(String fn){

firstname = fn;

}

void setLn(String ln){

lastname=ln;

}

void setSal(double sal){

if(salary<0){

salary=0.0;

}

else{

salary = sal;

}

}

String getFn(){

return firstname;

}

String getLn(){

return lastname;

}

double getsal(){

return salary;

}

double sal(int percent){

salary+=salary\*((percent/100.0));

return salary;

}

}

public class Main

{

public static void main(String[] args) {

Employee em1 = new Employee("malini","s",20000);

Employee em2 = new Employee("pramika",”s",30000);

System.out.println(em1.getFn() + em1.getLn() +em1.getsal());

System.out.println(em2.getFn() + em2.getLn() +em2.getsal());

double s = em1.sal(10);

System.out.println("Annual salary is " + (s\*12));

double s2 = em2.sal(15);

System.out.println("Annual salary is " + (s2\*12));

}

}