namespace bai01

{

class Mang1Chieu

{

private int[] arr = new int[100];

public Mang1Chieu() { }

public Mang1Chieu(int soPhanTu)

{

this.arr = new int[soPhanTu];

}

public int length

{

get { return arr.Length; }

}

public int this[int i]

{

get { return arr[i]; }

set

{

arr[i] = value;

}

}

public void prettyPrint()

{

foreach(var i in arr)

{

Console.Write(i + " ");

}

Console.WriteLine();

}

public void printEven()

{

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

{

if (this[i] % 2 == 0)

Console.Write(this[i] + " ");

}

Console.WriteLine();

}

}

}

namespace bai01

{

class Program

{

static void Main(string[] args)

{

Mang1Chieu mMang = new Mang1Chieu(3);

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

Console.WriteLine("Nhap gia tri phan tu thu " + i + " :");

mMang[i] = int.Parse(Console.ReadLine());

}

mMang.prettyPrint();

Console.Write("Cac so chan cua day :");

mMang.printEven();

}

}

}

namespace bai02

{

public class DonThuc

{

// f(x) = a \* x ^ n

public double heSoA ;

public int soMuN ;

public DonThuc()

{

heSoA = 1;

soMuN = 0;

}

public DonThuc(double paramHeSoA,int paramSoMun)

{

this.heSoA = paramHeSoA;

this.soMuN = paramSoMun;

}

}

}

namespace bai02

{

class DaThuc

{

// f(x) = a0 \* x^0 + a1 \*x^1 + a2 \* x^2 + ...+ an\*x^n

private DonThuc[] mangDonThuc;

private int soLuongDonThuc = 1;

public double x = 0;

public DaThuc()

{

mangDonThuc = new DonThuc[1];

mangDonThuc[0] = new DonThuc();

}

public DaThuc(int soLuongDonThuc) {

mangDonThuc = new DonThuc[soLuongDonThuc];

this.soLuongDonThuc = soLuongDonThuc;

//khoi tao cac don thuc trong da thuc

for(int i = 0; i < this.soLuongDonThuc; i++)

{

this[i] = new DonThuc(1,i);

}

}

//Operator

public DonThuc this[int i]

{

get { return mangDonThuc[i]; }

set { mangDonThuc[i] = value; }

}

public void KhoiTaoDaThuc()

{

for( int i = 0; i < this.soLuongDonThuc; i++)

{

DonThuc mDonThuc = this[i];

mDonThuc.soMuN = i;

Console.Write("Vui long nhap he so a tai don thuc thu "+i+" :");

mDonThuc.heSoA = double.Parse(Console.ReadLine());

}

}

public void prettyPrint()

{

Console.WriteLine("In da thuc :");

for(int i = 0; i < this.soLuongDonThuc; i++)

{

DonThuc mDonThuc = this[i];

Console.Write(mDonThuc.heSoA + "\*" + "x" + mDonThuc.soMuN);

if(i!= this.soLuongDonThuc - 1)

{

Console.Write("+");

}

}

Console.WriteLine();

}

public double GiaTriCuaDaThuc()

{

double kq = 0;

for(int i = 0;i<this.soLuongDonThuc; i++)

{

kq += this[i].heSoA \* Math.Pow(this.x, this[i].soMuN);

}

return kq;

}

}

}

namespace bai02

{

class Program

{

static void Main(string[] args)

{

Console.Write("Vui long nhap bac cua da thuc:");

int n = int.Parse(Console.ReadLine());

DaThuc mDathuc = new DaThuc(n);

mDathuc.KhoiTaoDaThuc();

mDathuc.prettyPrint();

Console.Write("Vui long nhap gia tri cua x: ");

mDathuc.x = double.Parse(Console.ReadLine());

Console.WriteLine("Gia tri da thuc tai x "+mDathuc.x+ "la : "+mDathuc.GiaTriCuaDaThuc());

//f(x) = 3.6 + 2.7 + x^1 + 4.1 + x^ 2 + 8.9 + x^3 + 0.3 \* x^4

//tinh gia tri tai x = 1.5

}

}

}

-Bài 03-

DayPhanSo.cs

using System;

namespace test

{

public class DayPhanSo

{

PhanSo[] arrPs;

public int SoLuongPT;

public DayPhanSo() {

arrPs = new PhanSo[0];

}

public DayPhanSo(int SoLuongPT){

arrPs = new PhanSo[SoLuongPT];

this.SoLuongPT = SoLuongPT;

}

public PhanSo this[int i]{

get { return arrPs[i];}

set { arrPs[i] = value ;}

}

public void CreatePs(){

Console.WriteLine("Nhap Day Phan So");

for( int i = 0; i < this.SoLuongPT; i++){

Console.WriteLine("Nhap tu so cua phan tu thu " + i + ":");

int tuSoMoi = int.Parse(Console.ReadLine());

Console.WriteLine("Nhap mau so cua phan tu thu " + i + ":");

int mauSoMoi = int.Parse(Console.ReadLine());

this[i] = new PhanSo(tuSoMoi,mauSoMoi);

}

}

public void Print(){

Console.WriteLine("Day So la:");

for (int i = 0; i < this.SoLuongPT;i++){

this[i].Print();

if(i != this.SoLuongPT -1)

Console.Write(",");

}

Console.WriteLine();

}

public PhanSo TongDayPs(){

PhanSo kq = new PhanSo();

for (int i = 0; i < this.SoLuongPT;i++){

kq = kq + this[i];

}

return PhanSo.Reduce(kq);

}

}

}

PhanSo.cs

using System;

namespace test

{

public class PhanSo{

int tuSo;

int mauSo;

public PhanSo(){

tuSo = 0;

mauSo = 1;

}

public PhanSo(int soNguyen){

tuSo = soNguyen;

mauSo = 1 ;

}

public PhanSo(int tuSoArg, int mauSoArg){

tuSo = tuSoArg;

mauSo = mauSoArg;

}

// Cong hai phan so : (a\*d+b\*c) / (b\*d)

public static PhanSo operator + (PhanSo a, PhanSo b) {

int tuSoMoi = a.tuSo \* b.mauSo + a.mauSo \* b.tuSo;

int mauSoMoi = a.mauSo \* b.mauSo;

return new PhanSo(tuSoMoi,mauSoMoi);

}

// Tru hai phan so : (a\*d - b\*c) / (b\*d)

public static PhanSo operator - (PhanSo a, PhanSo b) {

int tuSoMoi = a.tuSo \* b.mauSo - a.mauSo \* b.tuSo;

int mauSoMoi = a.mauSo \* b.mauSo;

return new PhanSo(tuSoMoi,mauSoMoi);

}

// Nhan hai phan so : (a\*c) /(b\*d)

public static PhanSo operator \* (PhanSo a,PhanSo b){

int tuSoMoi = a.tuSo \* b.tuSo;

int mauSoMoi = a.mauSo \* b.mauSo;

return new PhanSo(tuSoMoi,mauSoMoi);

}

// Chia hai phan so (a\*d) / (b\*c)

public static PhanSo operator / (PhanSo a,PhanSo b){

int tuSoMoi = a.tuSo \* b.mauSo;

int mauSoMoi = a.mauSo \* b.tuSo;

return new PhanSo(tuSoMoi,mauSoMoi);

}

// so sanh lon hon

public static bool operator > (PhanSo a,PhanSo b){

PhanSo kq = a - b;

return kq.tuSo > 0;

}

public static bool operator < (PhanSo a,PhanSo b ){

PhanSo kq = a - b;

return kq.tuSo < 0;

}

// so sanh lon hon hoac bang

public static bool operator >= (PhanSo a , PhanSo b){

return !(a<b);

}

public static bool operator <= (PhanSo a , PhanSo b){

return !(a>b);

}

// so sanh bang

public static bool operator == (PhanSo a , PhanSo b){

PhanSo kq = a - b;

return kq.tuSo ==0;

}

// so sanh khac

public static bool operator != (PhanSo a , PhanSo b){

return !(a==b);

}

public override bool Equals(object obj)

{

if (obj == null)

return false;

var second = obj as PhanSo;

return second != null && tuSo == second.tuSo && mauSo == second.mauSo;

}

// override object.GetHashCode

public override int GetHashCode()

{

return Tuple.Create(tuSo,mauSo).GetHashCode();;

}

public void Print(){

Console.Write("Gia Tri:" + tuSo + "/" + mauSo);

}

public static PhanSo Parse(string PhanSo){

if(PhanSo == null) throw new FormatException();

string[] split = PhanSo.Split('/');

int len = split.Length;

if (len == 2){

int s0 = int.Parse(split[0]);

int s1 = int.Parse(split[1]);

return new PhanSo(s0,s1);

}

else if (len == 4)

{

int s0 = int.Parse(split[0]);

int s1 = int.Parse(split[1]);

PhanSo f1 = new PhanSo(s0,s1);

int s2 = int.Parse(split[2]);

int s3 = int.Parse(split[3]);

PhanSo f2 = new PhanSo(s2,s3);

return f1/f2;

}else

throw new FormatException();

}

static int ss(int a,int b){

while (a !=b)

if(a < b)

b = b - a ;

else

a = a - b;

return (a);

}

static int division(int a ,int b){

int tkg = a;

int nskt = 0;

while (tkg >= 0){

tkg = tkg - b;

nskt++;

}

return (nskt);

}

public static PhanSo Reduce(PhanSo ps){

int divisor,numrator,denominator,reduceNumrator,reduceDenomator;

numrator = ps.tuSo;

denominator = ps.mauSo;

divisor = ss(numrator,denominator);

if (divisor != 1)

{

reduceNumrator = division(numrator,divisor);

reduceDenomator = division(denominator,divisor);

return new PhanSo(reduceNumrator,reduceDenomator);

}

else

return ps;

}

}

}

Program.cs

using System;

namespace test

{

class Program

{

static void Main(string[] args)

{

Console.Write("Nhap so luong phan tu cua day so");

int n = int.Parse(Console.ReadLine());

DayPhanSo mdps = new DayPhanSo(n);

mdps.CreatePs();

mdps.Print();

Console.Write("Tong Cua Day So La" );

mdps.TongDayPs().Print();

Console.WriteLine();

}

}

}

namespace bai04

{

class NhanVien

{

string ten;

int luong;

int soNgayNghi;

public NhanVien() { }

public NhanVien(string ten , int luong , int soNgayNghi)

{

this.ten = ten;

this.luong = luong;

this.soNgayNghi = soNgayNghi;

}

public int TinhLuong()

{

return luong - soNgayNghi \* 100000;

}

}

}

namespace bai04

{

class PhongBan

{

NhanVien[] arrNhanVien;

int soLuongNhanVien;

public PhongBan()

{

arrNhanVien = new NhanVien[0];

soLuongNhanVien = 0;

}

public PhongBan(int soLuongNhanVien)

{

this.soLuongNhanVien = soLuongNhanVien;

arrNhanVien = new NhanVien[soLuongNhanVien];

}

//operator []

public NhanVien this[int i]

{

get { return arrNhanVien[i]; }

set { arrNhanVien[i] = value; }

}

public void KhoiTaoPhongBan()

{

Console.WriteLine("Vui long nhap thong tin nhan vien o phong ban");

for(int i=0; i < this.soLuongNhanVien; i++){

Console.WriteLine("Vui long nhap ten nhan vien thu" + i + ":");

string ten = Console.ReadLine();

Console.WriteLine("Vui long nhap Luong nhan vien thu" + i + ":");

int luong = int.Parse(Console.ReadLine());

Console.WriteLine("Vui long nhap so ngay nghi nhan vien thu" + i + ":");

int soNgayNghi = int.Parse(Console.ReadLine());

this[i] = new NhanVien(ten, luong, soNgayNghi);

}

}

public int TinhLuongPhongBan()

{

int kq = 0;

for (int i =0; i<this.soLuongNhanVien;i++)

{

kq = kq + this[i].TinhLuong();

}

return kq;

}

}

}

namespace bai04

{

class Program

{

static void Main(string[] args)

{

Console.Write("Vui long nhap so luong nhan vien cua phong ban :");

int soLuongNhanVien = int.Parse(Console.ReadLine());

PhongBan mPhongBan = new PhongBan(soLuongNhanVien);

mPhongBan.KhoiTaoPhongBan();

Console.WriteLine("Tong luong cua phong ban la: " + mPhongBan.TinhLuongPhongBan());

}

}

}