# Part 1

## Bài 1: Phân số

### Class PhanSo

class PhanSo

{

private int TuSo; //Tu so

private int MauSo; //Mau so

public PhanSo()

{

TuSo = 0;

MauSo = 1;

}

public void nhap()

{

Console.Write("Nhap tu so: ");

TuSo = Int32.Parse(Console.ReadLine());

do

{

Console.Write("Nhap mau so: ");

MauSo = Int32.Parse(Console.ReadLine());

if (MauSo <= 0) Console.WriteLine("Nhap lai");

} while (MauSo <= 0);

}

public PhanSo(int tu, int mau)

{

TuSo = tu;

MauSo = mau;

}

public void In()

{

Console.WriteLine("{0}/{1}", TuSo, MauSo);

}

private int ucln(int a, int b)

{

int ucln = 1;

a = Math.Abs(a);

b = Math.Abs(b);

if (( a == 0) || (b == 0))

return ucln;

else

{

while (a != b)

{

if (a > b) a -= b;

else b -= a;

}

ucln = a;

return ucln;

}

}

public void RutGon()

{

int uc = ucln(TuSo, MauSo);

TuSo = TuSo / uc;

MauSo = MauSo / uc;

}

public PhanSo Cong(PhanSo ps0)

{

int tu = TuSo \* ps0.MauSo + MauSo \* ps0.TuSo;

int mau = MauSo \* ps0.MauSo;

PhanSo ketqua = new PhanSo(tu, mau);

return ketqua;

}

public PhanSo Tru(PhanSo ps0)

{

int tu = TuSo \* ps0.MauSo - MauSo \* ps0.TuSo;

int mau = MauSo \* ps0.MauSo;

PhanSo ketqua = new PhanSo(tu, mau);

return ketqua;

}

public PhanSo Nhan(PhanSo ps0)

{

int tu = TuSo \* ps0.TuSo;

int mau = MauSo \* ps0.MauSo;

PhanSo ketqua = new PhanSo(tu, mau);

return ketqua;

}

public PhanSo Chia(PhanSo ps0)

{

int tu = TuSo \* ps0.MauSo;

int mau = MauSo \* ps0.TuSo;

PhanSo ketqua = new PhanSo(tu, mau);

return ketqua;

}

}

### Program

class Program

{

static void Main(string[] args)

{

PhanSo ps1;

Console.WriteLine("Nhap mot phan so thu nhat");

ps1 = new PhanSo();

ps1.nhap();

Console.Write("Phan so vua nhap:");

ps1.In();

Console.Write("Rut gon: ");

ps1.RutGon();

ps1.In();

Console.WriteLine("Nhap phan so thu hai");

PhanSo ps2;

ps2 = new PhanSo();

ps2.nhap();

Console.Write("Phan so vua nhap:");

ps2.In();

Console.Write("Rut gon: ");

ps2.RutGon();

ps2.In();

Console.WriteLine("Tong hai phan so la:");

PhanSo tong = new PhanSo();

tong = ps1.Cong(ps2);

tong.RutGon();

tong.In();

Console.WriteLine("Hieu hai phan so la:");

PhanSo hieu = new PhanSo();

hieu = ps1.Tru(ps2);

hieu.RutGon();

hieu.In();

Console.WriteLine("Tich hai phan so la:");

PhanSo tich = new PhanSo();

tich = ps1.Nhan(ps2);

tich.RutGon();

tich.In();

Console.WriteLine("Thuong hai phan so la:");

PhanSo thuong = new PhanSo();

thuong = ps1.Chia(ps2);

thuong.RutGon();

thuong.In();

Console.Read();

}

}

## Bài 2: Xây dựng chương trình làm việc với các điểm trong không gian 2 chiều

### Class Diem

class Diem

{

private double x; //Hoanh do

private double y; //Tung do

public Diem()

{

x = 0;

y = 0;

}

public Diem(double x, double y)

{

this.x = x;

this.y = y;

}

public void nhap()

{

Console.Write("Nhap hoanh do:");

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

Console.Write("Nhap tung do:");

y = double.Parse(Console.ReadLine());

}

public void In()

{

Console.WriteLine("({0};{1})",x,y);

}

public double KhoangCach(Diem a, Diem b)

{

return Math.Sqrt(Math.Pow(a.x-b.x,2)+ Math.Pow(a.y-b.y,2));

}

}

### Program

class Program

{

static void Main(string[] args)

{

Diem a, b;

Console.WriteLine("Nhap diem A:");

a = new Diem();

a.nhap();

Console.Write("Diem A vua nhap la:");

a.In();

Console.WriteLine("Nhap diem B:");

b = new Diem();

b.nhap();

Console.Write("Diem B vua nhap la:");

b.In();

Console.WriteLine("Khoang cach giua 2 diem A va B la: {0}",

a.KhoangCach(a,b));

Console.Read();

}

}

## Bài 3: Chương trình làm việc với mảng 1 chiều

### Class MangSoNguyen

class MangSoNguyen

{

private int n; //So phan tu cua mang

int[] mang;

public MangSoNguyen(int n)

{

this.n = n;

mang = new int[n];

}

public void NhapMang()

{

for (int i=0; i < n; i++)

{

Console.Write("Nhap phan tu thu {0}:", i);

mang[i] = Convert.ToInt32(Console.ReadLine());

}

}

public void InMang()

{

Console.WriteLine("Cac phan tu cua mang:");

foreach (int x in mang)

{

Console.Write("{0}, ", x);

}

}

public void sapxep(int thutu) //0:tang dan, 1:giam dan

{

int temp;

if (thutu == 0)

{

for (int i = 0; i < n - 1; i++)

{

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

{

if (mang[i] > mang[j])

{

temp = mang[i];

mang[i] = mang[j];

mang[j] = temp;

}

}

}

}

else

{

for (int i = 0; i < n - 1; i++)

{

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

{

if (mang[i] < mang[j])

{

temp = mang[i];

mang[i] = mang[j];

mang[j] = temp;

}

}

}

}

}

public int timkiem(int m) //Tra ve vi tri neu tim thay

{

for (int i = 0; i < n; i++)

{

if (mang[i] == m) return i;

}

return -1;

}

}

### Program

class Program

{

static void Main(string[] args)

{

Console.Write("Nhap so phan tu cua mang:");

int n = Int32.Parse(Console.ReadLine());

MangSoNguyen myarray = new MangSoNguyen(n);

myarray.NhapMang();

myarray.sapxep(0);

myarray.InMang();

Console.WriteLine();

Console.WriteLine("Nhap khoa tim kiem:");

int x = Convert.ToInt32(Console.ReadLine());

if (myarray.timkiem(x) == -1) Console.Write("Khong tim thay");

else Console.WriteLine("Vi tri trong mang: {0}", myarray.timkiem(x));

Console.Read();

}

}

## Bài 4: Xây dựng chương trình làm việc với ma trận

### Class MaTran

class MaTran

{

private int m; //So dong cua ma tran

private int n; //So cot cua ma tran

int[,] matran;

public MaTran(int m, int n)

{

this.n = n;

this.m = m;

matran = new int[m, n];

}

public MaTran(int[,] maTran)

{

matran = new int[maTran.GetLength(0), maTran.GetLength(1)];

for (int i = 0; i < maTran.GetLength(0); i++)

{

for (int j = 0; j < maTran.GetLength(1); j++)

{

matran[i, j] = maTran[i, j];

}

}

}

public void NhapMaTran()

{

for (int i = 0; i < matran.GetLength(0); i++)

{

for (int j = 0; j < matran.GetLength(1); j++)

{

Console.Write("Nhap phan tu [{0},{1}]: ", i, j);

matran[i, j] = Convert.ToInt32(Console.ReadLine());

}

}

}

public void InMaTran()

{

for (int i = 0; i < matran.GetLength(0); i++)

{

for (int j = 0; j < matran.GetLength(1); j++)

{

Console.Write("{0,10}", matran[i, j]);

}

Console.WriteLine();

}

}

protected int[,] ConvertToMang2Chieu()

{

int[,] cv = new int[m, n];

for (int i = 0; i < matran.GetLength(0); i++)

{

for (int j = 0; j < matran.GetLength(1); j++)

{

cv[i, j] = matran[i, j];

}

}

return cv;

}

public MaTran Tong(MaTran a, MaTran b)

{

int [,] mt1 = a.ConvertToMang2Chieu();

int[,] mt2 = b.ConvertToMang2Chieu();

int[,] ketqua = new int[a.m, a.n];

for (int i = 0; i < a.m; i++)

{

for (int j = 0; j < a.n; j++)

{

ketqua[i, j] = mt1[i, j] + mt2[i, j];

}

}

MaTran kq = new MaTran(ketqua);

return kq;

}

public MaTran Hieu(MaTran a, MaTran b)

{

int[,] mt1 = a.ConvertToMang2Chieu();

int[,] mt2 = b.ConvertToMang2Chieu();

int[,] ketqua = new int[a.m, a.n];

for (int i = 0; i < a.m; i++)

{

for (int j = 0; j < a.n; j++)

{

ketqua[i, j] = mt1[i, j] + (-1)\*mt2[i, j];

}

}

MaTran kq = new MaTran(ketqua);

return kq;

}

public MaTran Tich(MaTran a, MaTran b)

{

int[,] mt1 = a.ConvertToMang2Chieu();

int[,] mt2 = b.ConvertToMang2Chieu();

int[,] ketqua = new int[a.m, b.n];

for (int i = 0; i < a.m; i++) //hang cua ma tran a

{

for (int j = 0; j < b.n; j++) // cot cua ma tran b

{

int tong = 0;

for (int k = 0; k < a.n; k++)

{

tong += mt1[i, k] \* mt2[k, j];

}

ketqua[i, j] = tong;

}

}

MaTran kq = new MaTran(ketqua);

return kq;

}

public MaTran MaTranChuyenVi()

{

int[,] cv = new int[n, m];

for (int i = 0; i < matran.GetLength(0); i++)

{

for (int j = 0; j < matran.GetLength(1); j++)

{

cv[j, i] = matran[i, j];

}

}

MaTran kq = new MaTran(cv);

return kq;

}

public bool KiemTraMaTranVuong()

{

bool kt = false;

if (m == n) kt = true;

return kt;

}

}

### Class Program

class Program

{

static void Main(string[] args)

{

Console.Write("Nhap so dong cua ma tran thu nhat:");

int m1 = Int32.Parse(Console.ReadLine());

Console.Write("Nhap so cot cua ma tran thu nhat:");

int n1 = Convert.ToInt32(Console.ReadLine());

MaTran a = new MaTran(m1, n1);

Console.WriteLine("Nhap ma tran a:");

a.NhapMaTran();

Console.WriteLine("Ma tran a:");

a.InMaTran();

Console.Write("Nhap so dong cua ma tran thu hai:");

int m2 = Int32.Parse(Console.ReadLine());

Console.Write("Nhap so cot cua ma tran thu hai:");

int n2 = Convert.ToInt32(Console.ReadLine());

MaTran b = new MaTran(m2, n2);

Console.WriteLine("Nhap ma tran b:");

b.NhapMaTran();

Console.WriteLine("Ma tran b:");

b.InMaTran();

MaTran c = new MaTran(m1, n2);

if (m1 != m2 || n1 != n2)

Console.WriteLine("Khong the cong 2 ma tran khong cung co");

else

{

Console.WriteLine("Tong hai ma tran:");

c = c.Tong(a, b);

c.InMaTran();

}

if (m1 != m2 || n1 != n2)

Console.WriteLine("Khong the tinh hieu 2 ma tran khong cung co");

else

{

Console.WriteLine("Hieu hai ma tran:");

c = c.Hieu(a, b);

c.InMaTran();

}

if (n1 != m2)

Console.WriteLine("Khong the nhan hai ma tran");

else

{

Console.WriteLine("Tich hai ma tran:");

c = c.Tich(a, b);

c.InMaTran();

}

Console.WriteLine("Ma tran chuyen vi cua a la:");

MaTran cv = a.MaTranChuyenVi();

cv.InMaTran();

if (a.KiemTraMaTranVuong())

Console.WriteLine("Ma tran a la ma tran vuong");

else

Console.WriteLine("Ma tran a khong la ma tran vuong");

Console.ReadLine();

}

}

## Bài 5: Xây dựng lớp NhanVien

### Class NhanVien

class NhanVien

{

string HoTen, DiaChi;

short NamSinh;

float LuongCoBan, HeSo, PhuCap, TongTien;

public NhanVien()

{

HoTen = "";

DiaChi = "";

NamSinh = 0;

LuongCoBan = HeSo = PhuCap = TongTien = 0;

}

public void nhap()

{

Console.Write("Nhap ho ten:");

HoTen = Console.ReadLine();

Console.Write("Nhap nam sinh:");

NamSinh = Int16.Parse(Console.ReadLine());

Console.Write("Nhap dia chi:");

DiaChi = Console.ReadLine();

Console.Write("Nhap luong co ban:");

LuongCoBan = float.Parse(Console.ReadLine());

Console.Write("Nhap he so:");

HeSo = float.Parse(Console.ReadLine());

Console.Write("Nhap phu cap:");

PhuCap = float.Parse((Console.ReadLine()));

}

public void In()

{

Console.WriteLine(HoTen + ", {0}" + ", " + DiaChi + ", {1}", NamSinh, TongTien);

}

public void TinhLuong()

{

TongTien = LuongCoBan \* HeSo + PhuCap;

}

}

### Program

class Program

{

static void Main(string[] args)

{

NhanVien a;

Console.WriteLine("Nhap mot nhan vien");

a = new NhanVien();

a.nhap();

a.TinhLuong();

Console.Write("In nhan vien vua nhap:");

a.In();

}

}

## Bài 6: Chương trình quản lý Sinh viên

### Class SinhVien

class SinhVien

{

string MaSV, HoTen, QueQuan;

short NamSinh;

float DiemLapTrinh, DiemCSDL, DiemTB;

public SinhVien()

{

MaSV = "";

HoTen = "";

QueQuan = "";

NamSinh = 0;

DiemLapTrinh = DiemCSDL = DiemTB = 0;

}

public SinhVien(string hoten, short namsinh, string quequan, float diemLT, float diemCsdl)

{

HoTen = hoten;

NamSinh = namsinh;

QueQuan = quequan;

DiemLapTrinh = diemLT;

DiemCSDL = diemCsdl;

}

public void nhap()

{

Console.Write("Nhap ma sinh vien:");

MaSV = Console.ReadLine();

Console.Write("Nhap ho ten:");

HoTen = Console.ReadLine();

Console.Write("Nhap nam sinh:");

NamSinh = Int16.Parse(Console.ReadLine());

Console.Write("Nhap que quan:");

QueQuan = Console.ReadLine();

Console.Write("Nhap diem lap trinh:");

DiemLapTrinh = float.Parse(Console.ReadLine());

Console.Write("Nhap diem CSDL:");

DiemCSDL = float.Parse(Console.ReadLine());

}

public void In()

{

DiemTB = (DiemLapTrinh + DiemCSDL) / 2;

Console.WriteLine("Ma SV:{0}" + ", Ten:" + HoTen + ", Nam Sinh:{1}"

+ ", Que Quan:" + QueQuan + ", Diem lap trinh:{2}" +

", Diem CSDL:{3}, DiemTB:{4}", MaSV, NamSinh,

DiemLapTrinh, DiemCSDL, DiemTB);

}

/\* chỗ dưới này phải học xong Chương 3 part 2 mới làm được nhé. Còn làm BT C3 p1 thì không cần thêm đâu \*/

public string maSV

{

get { return MaSV; }

set { MaSV = value; }

}

public string hoten

{

get { return HoTen; }

set { HoTen = value; }

}

public short namsinh

{

get { return NamSinh; }

set { NamSinh = value; }

}

public float diemlt

{

get { return DiemLapTrinh; }

set { DiemLapTrinh = value; }

}

public float diemcsdl

{

get { return DiemCSDL; }

set { DiemCSDL = value; }

}

public float Diemtb

{

get { return DiemTB; }

//set { DiemTB = (DiemLapTrinh + DiemCSDL) / 2; }

}

}

### Class DanhSach

class DanhSach

{

private int n; //So luong sinh vien

private SinhVien[] DS; //Mang chua danh sach sinh vien

public DanhSach()

{

DS = new SinhVien[100];

}

public void nhapDS()

{

Console.Write("Nhap so sinh vien:");

n = Int32.Parse(Console.ReadLine());

for (int i = 0; i < n; i++)

{

Console.WriteLine("Nhap sinh vien thu {0}", i);

DS[i] = new SinhVien();

DS[i].nhap();

}

}

public void InDS()

{

for (int i = 0; i < n; i++)

{

DS[i].In();

}

}

public void InTBhon8()

{

Console.WriteLine("\nDanh sach sinh vien co diem TB lon hon 8:");

for (int i = 0; i < n; i++)

{

if (DS[i].Diemtb > 8.0) DS[i].In();

}

}

public void SapXepMaSV()

{

SinhVien temp;

//sap xep

for (int i = 0; i < n-1; i++)

{

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

{

if (string.Compare(DS[i].maSV,DS[j].maSV) > 0)

{ // 1-lon hon; 0-bang; -1 : nho hon

temp = DS[i];

DS[i] = DS[j];

DS[j] = temp;

}

}

}

Console.WriteLine("\nDanh sach tang dan theo ma sinh vien:");

for (int i = 0; i < n; i++)

{

DS[i].In();

}

}

}

### Program

class Program

{

static void Main(string[] args)

{

DanhSach DSSV = new DanhSach();

Console.WriteLine("Danh sach sinh vien:");

DSSV.nhapDS();

DSSV.InDS();

DSSV.InTBhon8();

DSSV.SapXepMaSV();

Console.ReadLine();

}

}

# Part 2

## Bài 1: Tam giác

### Class TamGiac

class TamGiac

{

public float a, b, c, S, p;

public TamGiac()

{

a = b = c = 0;

}

public TamGiac(float a, float b, float c)

{

this.a = a;

this.b = b;

this.c = c;

}

public void nhap()

{

Console.Write("Nhap do dai canh thu nhat:");

a = float.Parse(Console.ReadLine());

Console.Write("Nhap do dai canh thu hai:");

b = float.Parse(Console.ReadLine());

Console.Write("Nhap do dai canh thu ba:");

c = float.Parse(Console.ReadLine());

}

public virtual void xuat()

{

Console.WriteLine("Do dai 3 canh lan luot la: {0}, {1}, {2}",

a, b, c);

}

public void TinhDT()

{

p = (a + b + c)/2;

S = MathF.Sqrt(p \* (p - a) \* (p - b) \* (p - c));

Console.WriteLine("Dien tich tam giac: {0}", S);

}

public float dientich

{

get { return S; }

}

}

### Class TuDien

class TuDien:TamGiac

{

public float h, V;

public TuDien (float a, float b, float c, float chieucao) : base(a,b,c)

{

h = chieucao;

V = 0;

}

public override void xuat()

{

Console.WriteLine("Do dai 3 canh day lan luot la: {0}, {1}, {2}",

a, b, c);

Console.WriteLine("Chieu cao: {0}", h);

}

public void TinhTheTich()

{

base.TinhDT();

V = (float)(h \* S)/3;

Console.WriteLine("The tich tu dien: {0}", V);

}

}

### Program

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Tam giac:");

TamGiac tg1 = new TamGiac(3, 4, 2);

tg1.TinhDT();

tg1.xuat();

Console.WriteLine("Tu dien:");

TuDien td1 = new TuDien(3, 4, 2, 4);

td1.xuat();

td1.TinhTheTich();

Console.ReadLine();

}

}

## Bài 2: Tiền điện

### Class TienDien

class TienDien

{

protected string HoTen, DiaChi;

protected int SoCongToTruoc, SoCongToSau;

protected int SoDienDaDung, SoTien;

public TienDien()

{

HoTen = "";

DiaChi = "";

SoCongToTruoc = SoCongToSau = 0;

}

public TienDien(string hoten, string diachi, int sotruoc, int sosau)

{

HoTen = hoten;

DiaChi = diachi;

SoCongToTruoc = sotruoc;

SoCongToSau = sosau;

}

public virtual void nhap()

{

Console.Write("Nhap ho ten:");

HoTen = Console.ReadLine();

Console.Write("Nhap dia chi:");

DiaChi = Console.ReadLine();

Console.Write("Nhap so cong to thang truoc:");

SoCongToTruoc = Convert.ToInt32(Console.ReadLine());

Console.Write("Nhap so cong to thang sau:");

SoCongToSau = Convert.ToInt32(Console.ReadLine());

}

public virtual void xuat()

{

Console.WriteLine("Thong tin cua ho: Ho ten: " + HoTen + ", Dia chi: " +

DiaChi + ", So cong to thang truoc: {0}, So cong to thang nay: {1}",

SoCongToTruoc, SoCongToSau);

}

protected int dadung

{

get { return SoDienDaDung; }

set { SoDienDaDung = SoCongToSau - SoCongToTruoc; }

}

public void tiendien()

{

SoDienDaDung = SoCongToSau - SoCongToTruoc;

Console.WriteLine("So dien da dung = {0}", SoDienDaDung);

SoTien = SoDienDaDung \* 500;

Console.WriteLine("Tien dien = {0}", SoTien);

}

}

### Class TienDienMoi

class TienDienMoi:TienDien

{

private int DinhMuc;

public override void nhap()

{

base.nhap();

Console.Write("Nhap so dinh muc:");

DinhMuc = Int32.Parse(Console.ReadLine());

}

public override void xuat()

{

base.xuat();

Console.WriteLine("Dinh muc: {0}", DinhMuc);

}

public new void tiendien()

{

SoDienDaDung = SoCongToSau - SoCongToTruoc;

Console.WriteLine("So dien da dung = {0}", SoDienDaDung);

if (SoDienDaDung <= DinhMuc) SoTien = SoDienDaDung \* 500;

else SoTien = SoDienDaDung \* 600;

Console.WriteLine("Tien dien = {0}", SoTien);

}

}

### Program

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Lop TienDien:");

TienDien td1 = new TienDien("tran thi a", "hp", 234, 432);

td1.xuat();

td1.tiendien();

Console.WriteLine("Lop TienDienMoi:");

TienDienMoi td2 = new TienDienMoi();

td2.nhap();

td2.xuat();

td2.tiendien();

}

}

## Bài 3: Quản lý nhân viên

### Class NhanVien

class NhanVien

{

protected string HoTen, DiaChi;

protected DateTime NgaySinh;

protected float Luong;

public virtual void nhap()

{

Console.Write("Nhap ho ten nhan vien:");

HoTen = Console.ReadLine();

Console.Write("Nhap dia chi nhan vien:");

DiaChi = Console.ReadLine();

Console.Write("Nhap ngay sinh nhan vien:");

NgaySinh = Convert.ToDateTime(Console.ReadLine());

}

public virtual void xuat()

{

Console.WriteLine("Thong tin nhan vien: Ho ten: {0}, Dia chi: {1}, " +

"Ngay sinh: {2}/{3}/{4}", HoTen, DiaChi, NgaySinh.Day,

NgaySinh.Month, NgaySinh.Year);

}

public virtual void TinhLuong()

{

Console.WriteLine("Luong cua nhan vien la: {0}", Luong);

}

}

### Class NhanVienCongNhat

class NhanVienCongNhat:NhanVien

{

private int SoNgayCong;

public override void nhap()

{

base.nhap();

Console.Write("So ngay cong cua nhan vien la:");

SoNgayCong = Int32.Parse(Console.ReadLine());

}

public override void xuat()

{

base.xuat();

Console.WriteLine("So ngay cong cua nhan vien la: {0}", SoNgayCong);

TinhLuong();

}

public override void TinhLuong()

{

Luong = (float)SoNgayCong \* 90000;

base.TinhLuong();

}

}

### Class NhanVienQuanLy

class NhanVienQuanLy:NhanVien

{

private float HeSoLuong, LuongCoBan;

public override void nhap()

{

base.nhap();

Console.Write("He so luong cua nhan vien la:");

HeSoLuong = Single.Parse(Console.ReadLine());

Console.Write("Luong co ban cua nhan vien la:");

LuongCoBan = Convert.ToSingle(Console.ReadLine());

}

public override void xuat()

{

base.xuat();

Console.WriteLine("He so luong va luong co ban cua nhan vien la: " +

"{0} va {1}", HeSoLuong, LuongCoBan );

TinhLuong();

}

public override void TinhLuong()

{

Luong = HeSoLuong \* LuongCoBan;

base.TinhLuong();

}

}

### Class NhanVienSanXuat

class NhanVienSanXuat:NhanVien

{

private int SoSanPham;

public override void nhap()

{

base.nhap();

Console.Write("So luong san pham cua nhan vien la:");

SoSanPham = Int32.Parse(Console.ReadLine());

}

public override void xuat()

{

base.xuat();

Console.WriteLine("So luong san pham cua nhan vien la: {0}", SoSanPham);

TinhLuong();

}

public override void TinhLuong()

{

Luong = (float)SoSanPham \* 30000;

base.TinhLuong();

}

}

### Class DSNV

class DSNV

{

private int SoLuong;

private NhanVien[] ds;

public void nhap()

{

Console.Write("So luong nhan vien:");

SoLuong = Convert.ToInt32(Console.ReadLine());

ds = new NhanVien[SoLuong];

for (int i=0;i<SoLuong;i++)

{

Console.WriteLine("Nhap thong tin nhan vien thu {0}:", i);

Console.WriteLine("Nhan vien thu {0} thuoc loai nao?" +

" 1 - Nhan vien cong nhat, 2 - Nhan vien san xuat, " +

"3-Nhan vien quan ly", i);

int loainv = Int32.Parse(Console.ReadLine());

if (loainv == 1)

{

ds[i] = new NhanVienCongNhat();

}

if (loainv == 2)

{

ds[i] = new NhanVienSanXuat();

}

if (loainv == 3)

{

ds[i] = new NhanVienQuanLy();

}

ds[i].nhap();

}

}

public void xuat()

{

for (int i = 0; i < SoLuong; i++)

{

ds[i].xuat();

}

}

}

### Class Program

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Danh sach nhan vien:");

DSNV ds = new DSNV();

ds.nhap();

ds.xuat();

Console.ReadLine();

}

}

# Part 3

## Bài 1: Quản lý sinh viên

### Class SinhVien

class SinhVien

{

string HoTen;

DateTime NgaySinh;

float DiemLapTrinh, DiemCSDL, DiemThietKeWeb, DiemTB;

public void nhap()

{

Console.Write("Nhap ho ten:");

HoTen = Console.ReadLine();

Console.Write("Nhap ngay sinh:");

NgaySinh=Convert.ToDateTime(Console.ReadLine());

Console.Write("Nhap diem lap trinh:");

DiemLapTrinh = float.Parse(Console.ReadLine());

Console.Write("Nhap diem CSDL:");

DiemCSDL = float.Parse(Console.ReadLine());

Console.Write("Nhap diem Thiet ke Web:");

DiemThietKeWeb = float.Parse(Console.ReadLine());

}

public void xuat()

{

Console.WriteLine("Ten:" + HoTen + ", Ngay Sinh:{0}/{1}/{2}"+

", Diem lap trinh:{3}, Diem CSDL:{4}, Diem Thiet ke Web:{5},",

NgaySinh.Day, NgaySinh.Month,NgaySinh.Year,

DiemLapTrinh, DiemCSDL, DiemThietKeWeb);

}

public void TinhDiemTB()

{

DiemTB = (DiemLapTrinh + DiemCSDL + DiemThietKeWeb) / 3;

Console.WriteLine("Diem TB: {0}", DiemTB);

}

public float diemlt

{

get { return DiemLapTrinh; }

set { DiemLapTrinh = value; }

}

public float diemcsdl

{

get { return DiemCSDL; }

set { DiemCSDL = value; }

}

public float diemweb

{

get { return DiemThietKeWeb; }

set { DiemThietKeWeb = value; }

}

public float Diemtb

{

get { return DiemTB; }

set { DiemTB = (DiemLapTrinh + DiemCSDL + DiemThietKeWeb) / 3; }

}

}

### Class DanhSachSV

class DanhSachSV

{

private int n; //So luong sinh vien

private SinhVien[] DS; //Mang chua danh sach sinh vien

public DanhSachSV()

{

DS = new SinhVien[100];

}

public void nhapDS()

{

Console.Write("Nhap so sinh vien:");

n = Int32.Parse(Console.ReadLine());

for (int i = 0; i < n; i++)

{

Console.WriteLine("Nhap sinh vien thu {0}", i);

DS[i] = new SinhVien();

DS[i].nhap();

}

}

public void xuatDS()

{

for (int i = 0; i < n; i++)

{

DS[i].xuat();

}

}

public void khoaluan()

{

int kl=0,cd=0;

for (int i = 0; i < n; i++)

{

if (DS[i].Diemtb >= 8 && DS[i].diemlt >= 5

&& DS[i].diemcsdl >= 5 && DS[i].diemweb >= 5)

kl++;

else cd++;

}

Console.WriteLine("So luong sinh vien lam khoa luan: {0}", kl);

Console.WriteLine("So luong sinh vien lam chuyen de: {0}", cd);

}

}

### Program

class Program

{

static void Main(string[] args)

{

DanhSachSV ds = new DanhSachSV();

Console.WriteLine("Danh sach sinh vien:");

ds.nhapDS();

ds.xuatDS();

ds.khoaluan();

Console.ReadLine();

}

}

## Bài 2: Quản lý thuê xe

### Class Xe

abstract public class Xe

{

abstract public void nhap();

abstract public void xuat();

abstract public int sogiothue

{

get;

}

abstract public long tinhtien(int sogiothue);

}

### Class XeDuLich

class XeDuLich:Xe

{

private int GioDau = 250000, GioTiepTheo = 70000;

private int SoGioThue;

private long TienThue;

public override void nhap()

{

Console.Write("Nhap so gio thue:");

SoGioThue = Int32.Parse(Console.ReadLine());

}

public override void xuat()

{

Console.WriteLine("So gio thue xe: {0}", SoGioThue);

}

public override int sogiothue

{

get { return SoGioThue; }

}

public override long tinhtien(int SoGioThue)

{

if (SoGioThue <= 1) return TienThue = GioDau \* SoGioThue;

else return TienThue = GioDau \* 1 + GioTiepTheo \* (SoGioThue - 1);

}

}

### Class XeTai

class XeTai:Xe

{

private int GioDau = 220000, GioTiepTheo = 85000;

private int SoGioThue;

private long TienThue;

public override void nhap()

{

Console.Write("Nhap so gio thue:");

SoGioThue = Int32.Parse(Console.ReadLine());

}

public override void xuat()

{

Console.WriteLine("So gio thue xe: {0}", SoGioThue);

}

public override int sogiothue

{

get { return SoGioThue; }

}

public override long tinhtien(int SoGioThue)

{

if (SoGioThue <= 1) return TienThue = GioDau \* SoGioThue;

else return TienThue = GioDau \* 1 + GioTiepTheo \* (SoGioThue - 1);

}

}

### Class Khach

class Khach

{

protected string HoTen;

protected int SoGioThue;

protected int LoaiXeThue;

protected Xe xethue;

public void nhap()

{

Console.Write("Nhap ho ten nguoi thue:");

HoTen = Console.ReadLine();

Console.Write("Nhap loai xe thue (1-Xe du lich, 2-Xe tai):");

LoaiXeThue = Convert.ToInt32(Console.ReadLine());

if (LoaiXeThue == 1) xethue = new XeDuLich();

if (LoaiXeThue == 2) xethue = new XeTai();

xethue.nhap();

SoGioThue = xethue.sogiothue;

}

public int sogiothue

{

get { return SoGioThue; }

}

public void xuat()

{

Console.WriteLine("Ho ten: {0}", HoTen);

if (LoaiXeThue == 1) Console.WriteLine("Loai xe thue: Xe du lich");

if (LoaiXeThue == 2) Console.WriteLine("Loai xe thue: Xe tai");

xethue.xuat();

}

public long tinhtien(int sogiothue)

{

return xethue.tinhtien(sogiothue);

}

}

### Class DanhSachThueXe

class DanhSachThueXe

{

private int SoLuong;

private Khach[] ds;

public void nhap()

{

Console.Write("So luong thue xe:");

SoLuong = Convert.ToInt32(Console.ReadLine());

ds = new Khach[SoLuong];

for (int i = 0; i < SoLuong; i++)

{

Console.WriteLine("Nhap thong tin thue xe thu {0}:", i);

ds[i] = new Khach();

ds[i].nhap();

}

}

public void xuat()

{

for (int i = 0; i < SoLuong; i++)

{

ds[i].xuat();

Console.WriteLine("Tien thue: {0}", ds[i].tinhtien(ds[i].sogiothue));

}

}

public void tongtien()

{

long tong=0;

for (int i = 0; i < SoLuong; i++)

{

tong += ds[i].tinhtien(ds[i].sogiothue);

}

Console.WriteLine("Tong so tien: {0}", tong);

}

}

### Class Program

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Danh sach thue xe:");

DanhSachThueXe ds = new DanhSachThueXe();

ds.nhap();

ds.xuat();

ds.tongtien();

Console.ReadLine();

}

}