

TH HƯỚNG ĐỐI TƯỢNG VÀ PHƯƠNG PHÁP LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG

1. Lớp HoaDon (lớp trừu tượng)

```

abstract public class HoaDon
{
    String maKH;
    String tenKH;
    private int soLuong;
    protected double giaBan;
    static double VAT = 0.1;
    public String MaKH
    {
        get { return maKH; }
        set { maKH = value; }
    }
    public int SoLuong
    {
        get { return soLuong; }
        set { soLuong = value; }
    }
    public HoaDon()
    {
        maKH = "KH001";
        tenKH = "Nguyen Van A";
        soLuong = 1;
        giaBan = 1000000;
    }
    public HoaDon(String ma, String ten, int sl, double gb)
    {
        this.maKH = ma;
        this.tenKH = ten;
        this.soLuong = sl;
        this.giaBan = gb;
    }
    public double tinhThanhTien()
    {
        return soLuong * giaBan - tinhChietKhau() + VAT * (soLuong * giaBan);
    }
    abstract public double tinhChietKhau();

    public virtual void nhap()
    {
        Console.Write("nhap ma khách hàng: ");
        this.maKH = Console.ReadLine();
        Console.Write("nhap ten khách hàng: ");
        this.tenKH = Console.ReadLine();
        Console.Write("nhap so luong sản phẩm: ");
        this.soLuong = int.Parse(Console.ReadLine());
        Console.Write("nhap giá bán: ");
        this.giaBan = double.Parse(Console.ReadLine());
    }

    public virtual void xuat()
    {
        Console.Write("{0} --- {1}---{2}---{3}---{4}",
            maKH, tenKH, soLuong, giaBan, tinhThanhTien());
    }
}

```

2. Lớp HDCaNhan

```
public class HDCaNhan:HoaDon
{
    int khoangCach;
    public HDCaNhan():base()
    {
        this.khoangCach=5;
    }

    public HDCaNhan(String ma, String ten, int sl, double gb,int kc)
        :base(ma,ten,sl,gb)
    {
        this.khoangCach=kc;
    }
    public override double tinhChietKhau()
    {
        double chietKhau = 0;
        if (SoLuong >= 5)
            chietKhau = 0.03 * SoLuong * giaBan;
        if (khoangCach < 10)
            chietKhau = chietKhau + 20000 * SoLuong;
        return chietKhau;
    }
    public override void nhap()
    {
        Console.WriteLine("Nhap thong tin hoa don ca nhan: ");
        base.nhap();
        Console.Write("nhap thong tin khoang cach giao hang: ");
        this.khoangCach = int.Parse(Console.ReadLine());
    }
    public override void xuat()
    {
        Console.Write("HDCaNhan: ");
        base.xuat();
        Console.WriteLine("---{0}", khoangCach);
    }
}
```

3. Lop HDDailyC1

```
public class HDDailyC1: HoaDon
{
    int thoiGianHT;
    public HDDailyC1()
        : base()
    {
        this.thoiGianHT = 1;
    }

    public HDDailyC1(String ma, String ten, int sl, double gb, int tg)
        : base(ma, ten, sl, gb)
    {
        this.thoiGianHT = tg;
    }
    public override double tinhChietKhau()
    {
        double tile = 0.3;
        if (thoiGianHT > 3)
            tile = tile + thoiGianHT / 100.0;
        return Math.Min(0.35, tile)*SoLuong*giaBan;
    }
    public override void nhap()
    {
        Console.WriteLine("Nhap thong tin hoa don cho dai ly cap 1:");
        base.nhap();
        Console.Write("nhap thong tin ve thoi gian hop tac: ");
        this.thoiGianHT = int.Parse(Console.ReadLine());
    }
    public override void xuat()
    {
        Console.Write("HDDaily1: ");
        base.xuat();
        Console.WriteLine("---{0}", thoiGianHT);
    }
}
```

4. Lop HDCongTy

```
public class HDCongTy:HoaDon
{
    int soLuongNV;

    public HDCongTy():base()
    {
        soLuongNV=500;
    }
    public HDCongTy(String ma, String ten, int sl, double gb,int slnv)
        :base(ma,ten,sl,gb)
    {
        this.soLuongNV=slnv;
    }
    public override double tinhChietKhau()
    {
        if(soLuongNV>5000)
            return 0.05*giaBan*SoLuong;
        else if(soLuongNV>3000)
            return 0.03*giaBan*SoLuong;
        else
            return 0;
    }
    public override void nhap()
    {
        Console.WriteLine("Nhap thong tin hoa don cong ty: ");
        base.nhap();
        Console.Write("nhap thong so luong nhan vien cua cong ty: ");
        this.soLuongNV = int.Parse(Console.ReadLine());
    }
    public override void xuat()
    {
        Console.Write("HDCongty: ");
        base.xuat();
        Console.WriteLine("---{0}", soLuongNV);
    }
}
```

5. Lớp CongTyMayLanh

```
public class CongTyMayLanh
{
    String tenCT;
    String dienThoaiCT;
    String diaChiCT;
    List<HoaDon> lstHDs;

    public CongTyMayLanh()
    {
        tenCT = "May lanh DaiChi";
        diaChiCT = "0280011200";
        diaChiCT = "140 Le Vinh Loc, Q12";
        lstHDs = new List<HoaDon>();
    }

    public void nhapXML()//doc tu file xml
    {
        //khai bao bien de mo file xml
        XmlDocument read = new XmlDocument();
        //chon file xml can mo de doc du lieu va mo file
        read.Load(@"E:\LuuDuLieuSinhVien\SuaBaiOnTap\SuaBaiOnTap\dulieu.xml");
        //doc thong tin ve ma cong ty
        this.tenCT = read.SelectSingleNode("/ThongTin/TenCT").InnerText;
        this.diaChiCT = read.SelectSingleNode("/ThongTin/SoDT").InnerText;
        this.dienThoaiCT = read.SelectSingleNode("/ThongTin/DiaChi").InnerText;
        lstHDs.Clear();
        XmlNodeList nl = read.SelectNodes("/ThongTin/DS/HoaDon");
        foreach (XmlNode node in nl)
        {
            HoaDon hd;
            //thuoc tinh Loai la attributes cua XmlNode HoaDon
            int loai = int.Parse(node.Attributes["Loai"].Value.ToString());
            //Cac thong tin chung
            String ma = node["Ma"].InnerText;
            String ten=node["Ten"].InnerText;
            int sl = int.Parse(node["SoLuong"].InnerText);
            double gb = double.Parse(node["GiaBan"].InnerText);

            if (loai == 1)//neu la ca nhan
            {
                int kc=int.Parse(node["KCaCh"].InnerText);
                hd = new HDCaNhan(ma, ten,sl,gb,kc);
            }
            else if (loai == 2)//neu la dai ly cap 1
            {
                int tg = int.Parse(node["TGian"].InnerText);
                hd = new HDDailyC1(ma, ten, sl, gb, tg);
            }
            else //neu la cong ty
            {
                int slnv = int.Parse(node["SoNV"].InnerText);
                hd = new HDCongTy(ma, ten, sl, gb, slnv);
            }
            lstHDs.Add(hd);
        }
    }
}
```

```

public void nhap()//nhap tu ban phim
{
    Console.WriteLine("Vui long nhap ten cong ty: ");
    tenCT = Console.ReadLine();
    Console.WriteLine("vui long nhap dia chi cong ty: ");
    diaChiCT = Console.ReadLine();
    Console.WriteLine("vui long nhap so dien thoai cong ty: ");
    diaChiCT = Console.ReadLine();

    int n;
    Console.WriteLine("nhap so luong hoa don cua cong ty: ");
    n = int.Parse(Console.ReadLine());

    lstHDs.Clear();

    for (int i = 0; i < n; i++)
    {
        HoaDon hd;
        int loai = 1;
        Console.WriteLine("Chon loai HD muon nhap (1:CaNhan, 2:DaiLy11, 3:Congty): ");
        loai = int.Parse(Console.ReadLine());

        if (loai == 1)
            hd = new HDCaNhan();
        else if (loai == 2)
            hd = new HDDaiLy11();
        else
            hd = new HDCongTy();
        hd.nhap();
        lstHDs.Add(hd);
    }
}

public void xuat()
{
    Console.WriteLine("Ten CT: {0}--- Dia chi CT: {1}---SDT cong ty",
        tenCT,diaChiCT,dienThoaiCT);

    Console.WriteLine("Danh sach cac Hoa don cua cong ty: ");
    //lstHDs.ForEach(t => t.xuat());
    foreach (HoaDon hd in lstHDs)
        hd.xuat();
}

public double tinhTongTien()
{
    return lstHDs.Sum(t => t.tinhThanhTien());
}

```

```

public HoaDon laySoLuongLN()
{
    if (lstHDs.Count == 0)
        return null;
    return lstHDs.OrderByDescending(t => t.SoLuong).First();
}

public double tinhTongCKCongTy()
{
    //return lstHDs.Where(t => t is HDCongTy).Sum(t => t.tinhChietKhau());
    double tong = 0;
    foreach (HoaDon hd in lstHDs)
        if (hd is HDCongTy)
            tong = tong + hd.tinhChietKhau();
    return tong;
}

public List<HoaDon> layDailyC1()
{
    return lstHDs.Where(t => t is HDDailyC1).ToList();
}

public void xuatDailyC1()
{
    Console.WriteLine("Thong tin cua dai ly cap 1: ");
    //layDailyC1().ForEach(t => t.xuat());
    foreach (HoaDon hd in lstHDs)
        if (hd is HDDailyC1)
            hd.xuat();
}

public void sortBySoLuong()
{
    lstHDs = lstHDs.OrderBy(t => t.SoLuong).
        ThenByDescending(t => t.tinhThanhTien()).ToList();
}

public HoaDon findByMa(String ma)
{
    return lstHDs.Find(t => t.MaKH.Equals(ma));
}
}

```

6. Hàm main

```
static void Main(string[] args)
{
    CongTyMayLanh ct = new CongTyMayLanh();
    //nhap thong tin tu file xml
    ct.nhapXML(); //neu nhap tu ban phim thi thay bang ct.nhap();
    //xuat thong tin ra man hinh
    ct.xuat();
    //tinh tong tien cua cac hoa don
    double tongTien = ct.tinhTongTien();
    Console.WriteLine("tong tin cua cac hoa don la {0}", tongTien);
    //lay hoa don co so luong mua nhieu nhat
    HoaDon max = ct.laySoLuongLN();
    if (max == null)
        Console.WriteLine("cong ty chua co hoa don nao");
    else
    {
        Console.WriteLine("Thong tin HD co so luong mua nhieu nhat la:");
        max.xuat();
    }
    //tinh tong tien chieest khau cua khach hang la cong ty
    double tongCK = ct.tinhTongCKCongTy();
    Console.WriteLine("tong chiet khau cua KH cong ty la:", tongCK);

    //IN ra man hinh htong tin cua cac khach hang la dai ly
    ct.xuatDailyC1();
    //Sap xep danh sach
    ct.sortBySoLuong();
    ct.xuat();
    //tim cong ty theo ma
    String x;
    Console.Write("nhap ma khach hang can tim: ");
    x = Console.ReadLine();

    HoaDon tim = ct.findByMa(x);
    if (tim == null)
        Console.WriteLine("Khach hang la");
    else
    {
        Console.WriteLine("Thong tin cua khac hang co ma x:");
        tim.xuat();
    }
    Console.ReadLine();
}
```


