

1. Xây dựng các lớp
 - a. Lớp Person_5604

```
1 //PhamQuocCuong_20225604
2
3 public class Person_5604 {
4     protected String name_5604;
5     protected int age_5604;
6     protected String address_5604;
7 }
```

- b. Các phương thức

```
8     public Person_5604(String name_5604, int age_5604, String address_5604) {
9         this.name_5604 = name_5604;
10        this.age_5604 = age_5604;
11        this.address_5604 = address_5604;
12    }
13
14    public String getName_5604() {
15        return name_5604;
16    }
17
18    public void setName_5604(String name_5604) {
19        this.name_5604 = name_5604;
20    }
21
22    public int getAge_5604() {
23        return age_5604;
24    }
25
26    public void setAge_5604(int age_5604) {
27        this.age_5604 = age_5604;
28    }
29
30    public String getaddress_5604() {
31        return address_5604;
32    }
33
34    public void setaddress_5604(String address_5604) {
35        this.address_5604 = address_5604;
36    }
37
38    public String toString() {
39        return "Name: " + name_5604 + ", Age: " + age_5604 + ", Address: " + address_5604;
40    }
41
42    public void displayInfo_5604() {
43        System.out.println(this.toString());
44    }
45 }
46 }
```

2. Kế thừa

2.1 Tạo lớp Citizen_5604

```
1 //PhamQuocCuong_20225604
2 public class Citizen_5604 extends Person_5604 {
3     private String job_5604;
4
5     public Citizen_5604(String name_5604, int age_5604, String address_5604, String job_5604) {
6         super(name_5604, age_5604, address_5604);
7         this.job_5604 = job_5604;
8     }
9
10    public String getJob_5604() {
11        return job_5604;
12    }
13
14    public void setJob_5604(String job_5604) {
15        this.job_5604 = job_5604;
16    }
17
18    @Override
19    public void displayInfo_5604() {
20        System.out.println("Citizen (" + this.toString() + ", Job: " + job_5604 + ")");
21    }
22 }
23
```

2.2 Tạo lớp Officer_5604

```
1 public class Officer_5604 extends Person_5604 {
2     private String department_5604;
3
4     public Officer_5604(String name_5604, int age_5604, String address_5604, String department_5604) {
5         super(name_5604, age_5604, address_5604);
6         this.department_5604 = department_5604;
7     }
8
9     public String getDepartment_5604() {
10        return department_5604;
11    }
12
13    public void setDepartment_5604(String department_5604) {
14        this.department_5604 = department_5604;
15    }
16
17    @Override
18    public void displayInfo_5604() {
19        System.out.println("Officer (" + super.toString() + ", Department: " + department_5604 + ")");
20    }
21 }
```

3. Đa hình

```
//displayInfor trong lop Person
public void displayInfo_5604() {
    System.out.println(this.toString());
}
```

```
//displayInfor trong lop Citizen
@Override
public void displayInfo_5604() {
    System.out.println("Citizen (" + this.toString() + ", Job: " + job_5604 + ")");
}
```

```
//displayInfor trong lop Officer
@Override
public void displayInfo_5604() {
    System.out.println("Officer (" + super.toString() + ", Department: " + department_5604 + ")");
}
```

4. Tạo lớp quản lý DistrictManagement:

```
1 //PhamQuocCuong_20225604
2 import java.util.ArrayList;
3
4 public class DistrictManagement_5604 {
5     // Lưu danh sách nhân khẩu bằng ArrayList
6     private ArrayList<Person_5604> people_5604;
7
8     public DistrictManagement_5604() {
9         people_5604 = new ArrayList<>();
10    }
11
12    // Thêm một nhân khẩu vào danh sách
13    public void addPerson_5604(Person_5604 p_5604) {
14        people_5604.add(p_5604);
15    }
16
17    // Hiển thị danh sách tất cả nhân khẩu
18    public void displayAll_5604() {
19        System.out.println("Hien thi thong tin - PhamQuocCuong - 5604:");
20        for (Person_5604 p : people_5604) {
21            p.displayInfo_5604();
22        }
23    }
24
25    // Tìm kiếm nhân khẩu theo tên
26    public void searchByName_5604(String name_5604) {
27        boolean found = false;
28        for (Person_5604 p : people_5604) {
29            if (p.getName_5604().equalsIgnoreCase(name_5604)) {
30                p.displayInfo_5604();
31                found = true;
32            }
33        }
34        if (!found) {
35            System.out.println("Khong tim thay nhan khau co ten: " + name_5604);
36        }
37    }
38 }
```

5. Thực hiện chương trình

Lớp Main:

```
1 package QuocCuong_20241_20225604;
2 import java.util.InputMismatchException;
3 import java.util.Scanner;
4
5 public class Main_5604 {
6     public static void main(String[] args) {
7         DistrictManagement_5604 management_5604 = new DistrictManagement_5604();
8         Scanner scanner = new Scanner(System.in);
9         boolean running = true;
10
11         System.out.println("Quan ly Nhan khau - 5604 - PhamQuocCuong - ky 2024.1 - Ngay 11");
12
13         while (running) {
14             try {
15                 System.out.println("\nMenu:");
16                 System.out.println("1. Them Nhan khau");
17                 System.out.println("2. Hien thi tat ca nhan khau");
18                 System.out.println("3. Tim kiem nhan khau theo ten");
19                 System.out.println("4. Thoat");
20                 System.out.print("Chon: ");
21                 int choice = scanner.nextInt();
22                 scanner.nextLine();
23
24                 switch (choice) {
25                     case 1:
26                         System.out.println("Nhap du lieu - PhamQuocCuong - 5604");
27                         System.out.println("a. Them Nhan khau - Citizen_5604");
28                         System.out.println("b. Them Nhan khau - Officer_5604");
29
30                         char type;
31                         while (true) {
32                             System.out.print("Chon loai nhan khau: ");
33                             String input = scanner.nextLine();
34                             if (input.length() == 1 && (input.charAt(0) == 'a' || input.charAt(0) == 'b')) {
35                                 type = input.charAt(0);
36                                 break;
37                             }
38                             System.out.println("Lua chon khong hop le. Vui long nhap 'a' hoac 'b'.");
39                         }
40
41                         System.out.print("Ho va ten: ");
42                         String name_5604 = scanner.nextLine();
43
44                         int age_5604;
45                         while (true) {
46                             System.out.print("Tuoi: ");
47                             try {
48                                 age_5604 = scanner.nextInt();
49                                 scanner.nextLine();
50                                 if (age_5604 > 0) break;
51                                 else System.out.println("Tuoi phai la so duong. Vui long thu lai.");
52                             } catch (InputMismatchException e) {
53                                 System.out.println("Vui long nhap mot so nguyen hop le cho tuoi.");
54                                 scanner.nextLine();
55                             }
56                         }
57
58                         System.out.print("Dia chi: ");
59                         String address_5604 = scanner.nextLine();
60
61                         if (type == 'a') {
62                             System.out.print("Nghe nghiep: ");
63                             String job_5604 = scanner.nextLine();
64                             management_5604.addPerson_5604(new Citizen_5604(name_5604, age_5604, address_5604, job_5604));
65                         } else if (type == 'b') {
66                             System.out.print("Phong ban cong tac: ");
67                             String department_5604 = scanner.nextLine();
68                             management_5604.addPerson_5604(new Officer_5604(name_5604, age_5604, address_5604, department_5604));
69                         } else {
70                             System.out.println("Lua chon khong hop le.");
71                         }
72                         break;
73
74                     case 2:
75                         management_5604.displayAll_5604();
76                         break;
77
78                     case 3:
79                         System.out.print("Nhap ten nhan khau can tim: ");
80                         String searchName_5604 = scanner.nextLine();
81                         management_5604.searchByName_5604(searchName_5604);
82                         break;
83
84                     case 4:
85                         System.out.println("Thoat khoi chuong trinh - PhamQuocCuong - 744528.");
86                         running = false;
87                         break;
88
89                     default:
90                         System.out.println("Lua chon khong hop le. Vui long thu lai.");
91                 }
92             } catch (InputMismatchException e) {
93                 System.out.println("Lua chon khong hop le. Vui long nhap so tu 1 den 4.");
94                 scanner.nextLine();
95             }
96         }
97         scanner.close();
98     }
99 }
100 }
```

Result:

Menu:

```
Quan ly Nhan khau - 5604 - PhamQuocCuong - ky 2024.1 - Ngay 11
```

Menu:

1. Them Nhan khau
2. Hien thi tat ca nhan khau
3. Tim kiem nhan khau theo ten
4. Thoat

1. Chọn 1:

```
Chon: 1
Nhap du lieu - PhamQuocCuong - 5604
a. Them Nhan khau - Citizen_5604
b. Them Nhan khau - Officer_5604
Chon loai nhan khau: a
Ho va ten: Nguyen Khanh Toan
Tuoi: 20
Dia chi: 20 ABC
Nghe nghiep: IT

Menu:
1. Them Nhan khau
2. Hien thi tat ca nhan khau
3. Tim kiem nhan khau theo ten
4. Thoat
Chon: 1
Nhap du lieu - PhamQuocCuong - 5604
a. Them Nhan khau - Citizen_5604
b. Them Nhan khau - Officer_5604
Chon loai nhan khau: b
Ho va ten: Nguyen Tuan Linh
Tuoi: 30
Dia chi: 40 DEF
Phong ban cong tac: Dai hoc Bach Khoa
```

2. Chọn 2:

```
Chon: 2
Hien thi thong tin - PhamQuocCuong - 5604:
Citizen (Name: Nguyen Khanh Toan, Age: 20, Address: 20 ABC, Job: IT)
Officer (Name: Nguyen Tuan Linh, Age: 30, Address: 40 DEF, Department: Dai hoc Bach Khoa)
Officer (Name: Ho Tuan Huy, Age: 40, Address: 30 HDG, Department: Kho bac nha nuoc)
Citizen (Name: Vu Quang Dung , Age: 21, Address: 456 ABC, Job: Teacher)
Citizen (Name: Nguyen Viet Linh, Age: 31, Address: 31 ADV, Job: IT)
```

3. Chọn 3:

```
Chon: 3
Nhap ten nhan khau can tim: nguyen khanh toan
Citizen (Name: Nguyen Khanh Toan, Age: 20, Address: 20 ABC, Job: IT)
```

4. Chọn 4:

```
Menu:
1. Them Nhan khau
2. Hien thi tat ca nhan khau
3. Tim kiem nhan khau theo ten
4. Thoat
Chon: 4
Thoat khoi chuong trinh - PhamQuocCuong - 744528.
```