**Ex: 14 Dt:**

**Aim:**

Create a c++ program that Create a base class person and derived classes general public, government official and VVIP. Maintain a static array of objects using inside the persons class. Access the shared memory from all the classes to store and retrieve data. Reserve zones in that array such that they are to be used by appropriate category of people. Ensure that the space is available in each zone before you create a dynamic object of each type and store it inside the shared array.

**Program:**

#include<iostream>

#include<conio.h>

using namespace std;

class person

{ public:

int i;

person()

{ i=0; }

class array

{ public:

char name[20];

char shared[20];

void inp()

{ cout<<"NAME: ";

cin>>name;

cout<<"SHARED\_MEMORY: ";

cin>>shared;

}

}a[10];

void stored();

void retrive();

}\*p;

class general:public person

{};

class vvip:public person

{};

class official:public person

{};

int main()

{ vvip v;

general g;

official o;

int ch;

while(1)

{ system("CLS");

cout<<"1.STORED\n2.RETRIVE\n3.EXIT";

cin>>ch; system("CLS");

switch(ch)

{ case 1: cout<<"1.VVIP\n2.GOVT\_OFFICIAL\n3.GENERAL";

cin>>ch;

system("CLS");

switch(ch)

{ case 1: if(v.i<=10)

{ p=&v;

p->stored();

break;

}

else

{ cout<<"SPACE FULL!!"; }

case 2: if(o.i<=10)

{ p=&o;

p->stored();

break;

}

else

{ cout<<"SPACE FULL!!"; }

case 3: if(o.i<=10)

{ p=&g;

p->stored();

break;

}

else

{ cout<<"SPACE FULL!!"; }

}break;

case 2: cout<<"CATEGORY\n1.VVIP\n2.GOVT\_OFFICIAL\n3.GENERAL:"; cin>>ch;

switch(ch)

{ case 1: p=&v;

p->retrive();

break;

case 2: p=&o;

p->retrive();

break;

case 3: p=&g;

p->retrive();

break;

}break;

case 3: exit(0);

}getch();

}

}

void person::stored()

{ ++i;

a[i].inp();

}

void person::retrive()

{ char n[20];

int s=0;

cout<<"ENTER NAME:"; cin>>n;

for(int x=1;x<=i;x++)

{ if(strcmp(a[x].name,n)==0)

{ s=x; }

}

if(s==0)

{ cout<<"INVALID ENTRY!!"; }

else

{ cout<<"SHARED\_ARRAY\_IS\n"<<a[s].shared; }

}

**Sample Input-Output:**

1. **STORED**
2. **RETRIVE**
3. **EXIT 1.**
4. **VVIP**
5. **GOVT\_OFFICIAL**
6. **GENERAL 1**

**NAME: ABC**

**SHARED\_MEMORY: ABC@123**

1. **STORED**
2. **RETRIVE**
3. **EXIT 1.**
4. **VVIP**
5. **GOVT\_OFFICIAL**
6. **GENERAL 2**

**NAME: ESC**

**SHARED\_MEMORY: ESC@123**

1. **STORED**
2. **RETRIVE**
3. **EXIT 2.**

**CATEGORY**

1. **VVIP**
2. **GOVT\_OFFICIAL**
3. **GENERAL 1.**

**NAME: ABC**

**SHARED\_ARRAY\_IS**

**ABC@123**

1. **STORED**
2. **RETIVE**
3. **EXIT 3**