

PRACTICAL-4

DATE: _____

AIM:-

- i. Write a program to illustrate the use of this pointer.
- ii. An election is contested by five candidates. The candidates are numbered 1 to 5 and the voting is done by marking the candidate number on the ballot paper. Write a program to read the ballots and count the votes cast for each candidate using an array variable count. In case a number is read outside the range of 1 to 5, the ballot should be considered as a 'spoilt ballot' and the program should also count the number of spoilt ballots.
- iii. Write a program to call member functions of class in the main function using pointer to object and pointer to member function.

INPUT:-

i).

```
# include <iostream>
using namespace std;

class Test {
private :
    int *x;
public :
    void setx (int x) {
        this->x = x;
    }
    void print() {
        cout << "x =" << x << endl;
    }
};

int main() {
    Test obj;
    int x = 20;
    obj.setx(x);
    obj.print();
    return 0;
}
```

Output :-

$x = 20$

ii).

```
#include <iostream>
using namespace std;
int main() {
    const int NUM_CANDIDATES = 5;
    int Votes [NUM_CANDIDATES] = {0};
    int SpoiledBallots = 0;
    int vote;
    bool hasVoted = false;

    cout << "Election Voting System\n";
    cout << "(candidates : \n";
    cout << "1. Candidate 1 \n";
    cout << "2. Candidate 2 \n";
    cout << "3. Candidate 3 \n";
    cout << "4. Candidate 4 \n";
    cout << "5. Candidate 5 \n";

    if (!hasVoted) {
        cout << "Enter your vote (1-5): ";
        cin >> vote;

        if (vote >= 1 && vote <= NUM_CANDIDATES) {
            Votes [vote - 1]++;
            hasVoted = true;
            cout << "Thank you for voting! \n";
        }
        else {
            SpoiledBallots++;
            cout << "Spoilt Ballot recorded. \n";
        }
    } else {
}
```

```

cout << "You have already voted! \n";
}

cout << "In Election Results : \n";
for(int i = 0; i < NUM_CANDIDATES; i++) {
    cout << "Votes for candidate " << (i + 1) << ":" << votes[i]
        << endl;
}
cout << "Total Spoilt Ballots : " << spoiledBallots << endl;
return 0;
}

```

Output :-

Election Voting System
 Candidates :

1. Candidate 1
2. Candidate 2
3. Candidate 3
4. Candidate 4
5. Candidate 5

Enter your vote (1-5) : 2

Thank you for voting!

Election Results :

Votes for Candidate 1 : 0
 Votes for Candidate 2 : 1
 Votes for Candidate 3 : 0
 Votes for Candidate 4 : 0
 Votes for Candidate 5 : 0
 Total Spoilt Ballots : 0

iii).

```
# include <iostream>
using namespace std;

class MyClass {
public:
    int value;
    MyClass (int val) :
        value (val)
    {}
    int add (int x, int y) {
        return x + y;
    }
};

int main() {
    MyClass Obj(10);
    int (*MyClass :: * pToMemberFunc)(int, int)
        = &MyClass :: add;
    int result = (Obj . * pToMemberFunc) (20, 30);
    cout << "Result : " << result << endl;
    return 0;
}
```

Output :-

Result : 50