

Name: Atul Kumar Reg. No: 12102801

Roll No: RD2110B79 Question No.: 01

Course Code: CAP445 SET - "E"

Q-01 Implement the concept of classes to create a function that takes the number of wins, draws and losses and calculates the number of points a football team has obtained so far.

- wins get 3 points
- draws get 1 points
- losses get 0 points

Soln:-

```
#include <iostream>
using namespace std;
class Points
{
public:
    int win, loose, draw;
    void take_input()
{
    cout << "Enter no. of matches won
        by the team:" << endl;
    cin >> win;
```

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```
cout<<"Enter no. of matches Loose  
by the team:"<<endl;  
cin>> loose;  
cout<<"Enter no. of matches drawn  
by the team:"<<endl;  
cin>> draw;  
}  
void total_score()  
{  
    cout<<"Total Points:"<<3*win+0*loose  
    +1*draw;  
}  
};  
int main()  
{  
    Points p1;  
    p1.take_input();  
    p1.total_score();  
    return 0;  
}
```

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input

```
Enter number of matches won by the team :  
3  
Enter number of matches loose by the team :  
2  
Enter number of matches drawn by the team :  
3  
Total Points : 12  
...Program finished with exit code 0  
Press ENTER to exit console.
```

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Qⁿ-02 Create a class product; take appropriate data members and function which calculate net profit for a product after selling the product.

Solⁿ:-

```
#include <iostream>
using namespace std;
class Product
{
public:
float cp, sp, profit, loss;
void take_input()
{
    cout << "Enter Cost Price : Rs. ";
    cin >> cp;
    cout << "Enter selling Price : Rs. ";
    cin >> sp;
}
```

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```
void display()
{
    if (cp > sp)
        cout << "Loss of Rs." << cp - sp << endl;
    else if (cp < sp)
        cout << "Profit of Rs." << sp - cp << endl;
    else
        cout << "No Profit, No Loss" << endl;
}

};

int main()
{
    Product p1;
    p1.take-input();
    p1.display();
    return 0;
}
```

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```
input
Enter Cost Price :Rs. 100
Enter Selling Price :Rs. 120
Profit of :Rs. 20

...Program finished with exit code 0
Press ENTER to exit console.
```


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Q-03 Suppose there is Bank and there are different branches in Jalandhar, Phagwara, Hoshiarpur etc. President of the Bank want to know about the detail of the branch managers who has more working experience. Write a program using the concept of inheritance.

```
Soln: #include <iostream>
using namespace std;
class Jalandhar {
    public:
        int exp_jal;
        void mng_jal() {
            cout << "Enter experience (In Years) of Manager
                of Jalandhar Branch: ";
            cin >> exp_jal;
        }
};
```

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```
class Phagwara
```

```
public:
```

```
int exp-phg
```

```
void mng-phg() {
```

```
cout << "Enter experience (in Year) of  
Manager of Phagwara Branch:";
```

```
cin >> exp-phg;
```

```
}
```

```
};
```

```
class Hoshiarpur
```

```
public:
```

```
int exp-brp;
```

```
void mng-brp() {
```

```
cout << "Enter experience (in Year) of  
Manager of Hoshiarpur Branch:";
```

```
cin >> exp-brp;
```

```
}
```

```
};
```

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class President: public Jalandhar, public
Phagwara, public Hoshiarpur {

public:

void display() {

if (exp-jal > exp-phg && exp-jal > exp-hrp)

cout << "Manager of Jalandhar Branch Having
more experience than others." << endl;

else if (exp-phg > exp-jal && exp-phg > exp-hrp)

cout << "Manager of Phagwar Branch Having
more experience than others." << endl;

else

cout << "Manager of Hoshiarpur Branch
Having more experience than other." << endl;

}

};

int main() {

President p1;

p1.mng-jal();

p1.mng-phg();

p1.mng-hrp();

p1.display();

return 0;

}

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input
Enter experience(In Year) of Manager of Jalandhar Branch : 10
Enter experience(In Year) of Manager of Phagwara Branch : 07
Enter experience(In Year) of Manager of Hoshiarpur Branch : 5
Manager of Jalandhar Branch having more experience than others.

...Program finished with exit code 0
Press ENTER to exit console.