

**Institute of Computer Technology**  
**B. Tech. Computer Science and Engineering**  
**Semester: II**  
**Sub: ESFP – II**  
**Course Code: 2CSE203**  
**Practical No:5**

**Objective:** To understand the concept of “using namespace std”, using std, and namespace in C++.

**Problem Definition:**

**Q.1.** Calculate the fare for the passengers traveling in a bus. When a Passenger enters in the bus, the conductor asks “What distance will you travel?” On knowing distance from the passenger (as an approximate integer), the conductor mentions the fare to the passenger according to following criteria.

Distance ( in KMS)	Fare (Per KM)
0-20	Rs.1
21-40	Rs.2
41-60	Rs.3
61-80	Rs.4
81-100	Rs.5
101 and above	Rs.6

**[ Note: Perform this program using namespace].**

**Code and Output:**

```
#include<iostream>
using namespace std;
namespace bfcalculator{
    int calculatebf(int distance){
        int fare;
        if(distance>=0 && distance<=20){
            fare=1;
        }
        else if(distance>=21&& distance<=40){
            fare=2;
        }
        else if (distance>=41 && distance<=60){
            fare=3;
        }
        else if (distance>=61 && distance<=80){
            fare=4;
        }
        else if (distance>=81 && distance<=100){
            fare=5;
        }
        else{
            fare=6;
        }
        return fare*distance;
    }
}
int main(){
    int distance;
    cout<<"Enter the distance in KMs:";
    cin>>distance;
    int totalfare=bfcalculator::calculatebf(distance);
    cout<<"Total fare of journey is :"<<totalfare;
    return 0;
}
```

```
PS C:\Users\WANAN\Downloads\Documents\Documents (2)\ESFP-I S2\PS> g++ p5.cpp
PS C:\Users\WANAN\Downloads\Documents\Documents (2)\ESFP-I S2\PS> ./a.exe
Enter the distance in KMs:96
Total fare of journey is :480
```

**Q.2. Preform the following program using namespace.**

1. Get a number from the user (upto 5 digit).
2. Check whether the number is palindrome or not.
3. Check whether the number is Armstrong number or not.
4. Display output for each operation performed with appropriate text.

Create functions in the namespace and call them in main function to perform the tasks.

**Code and Output:**

```
P5 > C P52n.cpp > main()
1  #include<iostream>
2  using namespace std;
3  namespace checkNumber{
4  int isArmstrong(int num){
5      int original=num;
6      int sum=0;
7      while(num!=0){
8          int digit = num%10;
9          sum+=digit*digit*digit;
10         num/=10;
11     }
12     return original==sum;
13 }
14 int isPalidrone(int num){
15     int original = num;
16     int reverse=0;
17     while(num!=0){
18         reverse=reverse*10+num%10;
19         num/=10;
20     }
21     return original==reverse;
22 }
23 }
24 int main(){
25     using namespace checkNumber;
26     int num;
27     cout<<"Enter Number upto 5 digit :"<<endl;
28     cin>>num;
29     if(num<0||num>99999){
30         cout<<"Entered Number is Invalid."<<endl;
31         return 1;
32     }
33     if(isArmstrong(num)){
34         cout<<num<<" is a Armstrong Number"<<endl;
35     }
36     else{
37         cout<<num<<" is not a Armstrong Number"<<endl;
38     }
39     if(isPalidrone(num)){
40         cout<<num<<" is a Palidrone Number"<<endl;
41     }
42     else{
43         cout<<num<<" is not a Palidrone Number"<<endl;
44     }
45     return 0;
46 }
```

Batch 25(CS)

```
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> g++ p52n.cpp
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> ./a.exe
Enter Number upto 5 digit :
10654
10654 is not a Armstrong Number
10654 is not a Palidrone Number
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> g++ p52n.cpp
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> ./a.exe
Enter Number upto 5 digit :
1
1 is a Armstrong Number
1 is a Palidrone Number
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> █
```

**Q.3. Find out the error of the following program, correct it, and then write output of the program with justification.**

```
1.)
#include<iostream>
using namespace std;
namespace A {
    int a,b,c;
    void sum() {
        cout<<"Enter two number:";
        cin>>a>>b;
        c=a+b;
        cout<<"Sum of two number:"<<c;
    }
}
int main() {
    A.sum();
    return 0;
}
```

```
2.)
#include<iostream>
int main() {
    using std::int;
    using std::string;
    using std::cout;
    using std::endl;
    string uname="Ganpat University";
    string caddress="City Office:
Ahmedabad"; cout<<collegeld<<endl;
    cout<<uname<<endl;
    cout<<caddress<<endl;
    return 0;
}
```

1 :

Error:

Namespace Usage:

When calling the sum function from the A namespace in the main function, you should use the scope resolution operator ::. It should be A::sum(); instead of A.sum();.

Code and Output:

```
#include<iostream>
using namespace std;
namespace A {
    int a, b, c;
    void sum() {
        cout << "Enter two numbers: ";
        cin >> a >> b;
        c = a + b;
        cout << "Sum of two numbers: " << c ;
    }
}
int main() {
    A::sum();
    return 0;
}

PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> g++ p541.cpp
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> ./a.exe
Enter two numbers: 10
2
Sum of two numbers: 12
```

2:

Error:

1)The usage of using std::int; is incorrect because int is a fundamental type in C++, and you don't need to use the std:: prefix for it. The correct usage is just using namespace std; to bring all items from the std namespace into the current scope.

2)The variable collegeld is used in the cout statement, but it's not declared or defined anywhere in the code.

Code and Output:

```
#include<iostream>
#include<string>

int main() {
    using namespace std;
    string uname = "Ganpat University";
    string address = "City Office: Ahmedabad";
    cout << uname << endl;
    cout << address << endl;
    return 0;
}
```

```
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> g++ p542.cpp
PS C:\Users\MANAN\Downloads\Documents\Documents (2)\ESFP-I S2\P5> ./a.exe
Ganpat University
City Office: Ahmedabad
```