**Experiment – 14**

**Aim:** Write a program to define the function template for calculating the square of given numbers with different data types

**SOURCE CODE:**

#include <iostream>

using namespace std;

template <class T>

T square(T x)

{

T result;

result =x\*x;

return result;

}

int main()

{

int i , a;

float x, b;

double y , c;

i=2;

x=3.3;

y=4.4;

a= square<int>(i);

cout<<i<<" \t\tSQUARE: "<<a<<endl;

b= square<float>(x);

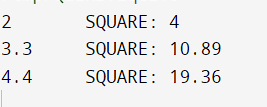
cout<<x<<" \tSQUARE: "<<b<<endl;

c= square<double>(y);

cout<<y<<" \tSQUARE: "<<c<<endl;

return 0;}

**OUTPUT:**



**Experiment – 15**

**Aim:** Write a program to define the function template for swapping two items of the various data types such as integer, float and characters

**SOURCE CODE:**

#include <iostream>

using namespace std;

template < class T > T Swapping (T & x, T & y)

{

T temp = x;

x = y;

y = temp;

return 0;

}

Int main ()

{

int a = 28, b=9;

float c = 4.567, d = 8.898;

char e = 'A', f = 'S';

cout<<"Before swapping- "<<endl;

cout << "a = " << a << "\t\tb = " << b<<endl;

cout << "c = " << c << "\td = " << d<<endl;

cout << "e = " << e << "\t\tf = " << f<<endl;

Swapping < int >(a, b);

Swapping < float >(c, d);

Swapping < char >(e, f);

cout<<"\nAfter Swapping- "<<endl;

cout << "a = " << a << "\t\tb = " << b<<endl;

cout << "c = " << c << "\td = " << d<<endl;

cout << "e = " << e << "\t\tf = " << f<<endl;

return 0;

}

**OUTPUT:**

