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

float ScalarProduct(int *, int *);
float ScalarProduct(float * , float *);
void FillVectors(float * , float * , const int);
void FillVectors(int * , int * , const int);


int main()
{
	const int dimension = 3;

	float vector1_f[dimension];
	float vector2_f[dimension];
	int vector1_i[dimension];
	int vector2_i[dimension];
	int choice;

	cout << "Please choose type of vector (int of float). Press '1' for int, '2' for float : ";
	cin >> choice;

	switch (choice)
	{
	case 1:
		FillVectors(vector1_i, vector2_i, dimension);
		cout.width(20);
		cout.fill('_');
		cout << "\n";
		cout << "Result is : " << ScalarProduct(vector1_i, vector2_i);
		break;

	case 2:
		FillVectors(vector1_f, vector2_f, dimension);
		cout.width(20);
		cout.fill('_');
		cout << "\n";
		cout << "Result is : " << ScalarProduct(vector1_f, vector2_f);
		break;

	default:
		cout << "Sorry an error occured.";
		break;
	}

	return 0;
}
```

```
float ScalarProduct(float* a, float * b)
{
	float result = 0;

	for (int i = 0; i < 3; i++)
	{
		result += a[i] * b[i];
	}

	return result;
}

float ScalarProduct(int* a, int * b)
{
	float result = 0;

	for (int i = 0; i < 3; i++)
	{
		result += a[i] * b[i];
	}

	return result;
}



void FillVectors(int * v1, int * v2, const int dimension)
{
	for (int i = 0; i < dimension; i++)
	{
		cout << "Enter the coords of vector #1.";
		cout << "\n";
		cout << "Enter " << i + 1 << " coordinate : ";
		cin >> *(v1 + i);
		cout << "\n";
	}

	cout << "\n";

	for (int i = 0; i < dimension; i++)
	{
		cout << "Enter the coords of vector #2.";
		cout << "\n";
		cout << "Enter " << i + 1 << " coordinate : ";
		cin >> *(v2 + i);
```

```
		cout << "\n";
	}

}

void FillVectors(float * v1, float * v2,const int dimension)
{
	for (int i = 0; i < dimension; i++)
	{
		cout << "Enter the coords of vector #1.";
		cout << "\n";
		cout << "Enter " << i + 1 << " coordinate : ";
		cin >> *(v1 + i);
		cout << "\n";
	}

	cout << "\n";

	for (int i = 0; i < dimension; i++)
	{
		cout << "Enter the coords of vector #2.";
		cout << "\n";
		cout << "Enter " << i + 1 << " coordinate : ";
		cin >> *(v2 + i);
		cout << "\n";
	}

}
```