Bài 1. Write a C++ program to add two matrix using pointers. C program to input two matrix from user and find sum of both matrices using pointers.

Sample:

Input matrix1:

1 2 3

4 5 6

7 8 9

Input matrix2:

9 8 7

6 5 4

3 2 1

Sum of both matrices:

10 10 10

10 10 10

10 10 10

Bài 2. Write a C++ program to find reverse of a string using pointers.

Sample:

Input = HELLO

Output = OLLEH

Bài 3. Write a C++ program to sort array using pointers.

Sample:

Input:

Input array elements: 10 -1 0 4 2 100 15 20 24 -5

Output:

Array in ascending order: -5, -1, 0, 2, 4, 10, 15, 20, 24, 100,

Array in descending order: 100, 24, 20, 15, 10, 4, 2, 0, -1, -5,

Bài 4 (bonus). Write a C++ program to check whether a number is palindrome or not.

Sample:

Input

Input any number: 121

Output

121 is palindrome

Bài 5 (bonus). Write a C++ program to convert Decimal to Hexadecimal number system

Sample:

Input

Input decimal number: 26

Output

Hexadecimal number: 1A

Bài 6. Predict the output of following programs. If there are compilation errors, then fix them:

Question 1

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

int &fun()
{
   static int x = 10;
   return x;
}
int main()
{
   fun() = 30;
   cout << fun();
   return 0;
```

```
}
```

Question 2

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

int fun(int &x)
{
    return x;
}
int main()
{
    cout << fun(10);
    return 0;
}
```

Question 3

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

void swap(char * &str1, char * &str2)
{
  char *temp = str1;
  str1 = str2;
  str2 = temp;
}

int main()
{
  char *str1 = "GEEKS";
  char *str2 = "FOR GEEKS";
  swap(str1, str2);
```

```cpp
  cout<<"str1 is "<<str1<<endl;

  cout<<"str2 is "<<str2<<endl;

  return 0;

}
```

Question 4

```cpp
#include<iostream>

using namespace std;


int main()

{

  int x = 10;

  int *ptr = &x;

  int &*ptr1 = ptr;

}
```

Question 5

```cpp
#include<iostream>

using namespace std;


int main()

{

  int *ptr = NULL;

  int &ref = *ptr;

  cout << ref;

}
```

Question 6

```cpp
#include<iostream>

using namespace std;
```

```cpp
int &fun()
{
    int x = 10;
    return x;
}
int main()
{
    fun() = 30;
    cout << fun();
    return 0;
}
```