

Fundamentals of Programming
ME-15
Section B
1st Semester
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```
#include <iostream>
using namespace std;
void add(int arr1[3][3], int arr2[3][3], int sum[3][3]) {
  for (int i = 0; i < 3; ++i) {
     for (int j = 0; j < 3; ++j) {
     sum[i][j] = arr1[i][j]+arr2[i][j];}
}
}
int main() {
  int arr1[3][3] =
{{1, 6, 9},
\{7, 8, 2\},\
{5, 3,4}};
  int arr2[3][3] =
{{11, 9, 3},
\{2, 1, 3\},\
{4, 6, 4}};
  int sum[3][3];
  add(arr1, arr2, sum);
  for(int i = 0; i < 3; ++i){
     for(int j = 0; j < 3; ++j){
     cout<<sum[i][j] << " ";}
     cout<<endl;
  }
  return 0;
}
         C++ Online Compiler
                   main.cpp
  6
                                   Output
/tmp/UcuOJCwkWu.o
12 15 12
9 9 5
9 9 8
#include <iostream>
Using namespace std;
int main() {
int leftDiagonal = 0, rightDiagonal= 0;
```

```
int arr1[3][3] =
  {{12, 15, 18},
  {4, 8, 6},
  {2, 7, 9}};
  For (int i = 0; i < 3; i++) {
   rightDiagonal += arr1[i][i];
   leftDiagonal += arr1[i][2 - i];
  }
cout <<"Sum of left: "<<leftDiagonal <<endl;</pre>
cout <<"Sum of right: "<< rightDiagonal<<endl;</pre>
return 0;
}
         C++ Online Compiler
   6
                  main.cpp
                                 Output
 /tmp/UcuOJCwkWu.o
 Sum of left: 28
 Sum of right: 29
#include <iostream>
using namespace std;
void multiplyMatrices(int arr1[3][3], int arr2[3][3], int product[3][3]) {
  for (int i = 0; i < 3; i++) {
     for (int j = 0; j < 3; j++) {
       product[i][j] = 0;
       for (int k = 0; k < 3; k++) {
          product[i][j] += arr1[i][k] * arr2[k][j];}}}
int main() {
  int arr1[3][3] = {{12, 15, 18},
              {4, 8, 6},
              {2, 7, 9}};
  int arr2[3][3] = \{\{11, 9, 3\},
              {2, 1, 3},
              {4, 6, 4}};
  int product[3][3];
```

```
multiplyMatrices(arr1, arr2, product);
  for (int i = 0; i < 3; i++) {
     for (int j = 0; j < 3; j++) {
       cout << product[i][j] << " ";
     }
     cout << endl;
  return 0;
}
        C++ Online Compiler
  5
                  main.cpp
                                  Output
/tmp/UcuOJCwkWu.o
234 231 153
84 80 60
72 79 63
#include <iostream>
using namespace std;
void trans(int arr1[3][3], int finalmatrix[3][3]) {
  for (int i = 0; i < 3; ++i) {
     for (int j = 0; j < 3; ++j) {
       finalmatrix[j][i] = arr1[i][j] }}}
int main() {
  int arr1[3][3] = \{\{12, 15, 18\}, \{4, 8, 6\}, \{2, 7, 9\}\};
  int finalmatrix[3][3];
  trans(arr1, finalmatrix);
  for (int i = 0; i < 3; ++i) {
     for (int j = 0; j < 3; ++j) {
     cout << finalmatrix[i][j] << " ";</pre>
     cout << endl;
  }
```

```
return 0;
}
       C++ Online Compiler
 6
               main.cpp
                            Output
/tmp/UcuOJCwkWu.o
12 4 2
15 8 7
18 6 9
#include<iostream>
using namespace std;
void multiples(int x, int y){
if (y>10) return;
cout<<x<"*"<<y<"="<<x*y<<endl;
return multiples(x,y+1);}
int main(){
int x=15;
multiples(x,1);
return 0;}
         C++ Online Compiler
   0
                  main.cpp
                                 Output
 /tmp/UcuOJCwkWu.o
 15*1=15
 15*2=30
 15*3=45
 15*4=60
 15*5=75
 15*6=90
 15*7=105
 15*8=120
 15*9=135
 15*10=150
```