

DSA Lab Task

Week 4

Question 1:

```
#include <iostream>

using namespace std;

int main()
{
    int rows, cols;

    cout << "How many rows? ";
    cin >> rows;
    cout << "How many columns? ";
    cin >> cols;

    int arr[rows][cols];

    cout << "Enter elements of array:" << endl;
    for (int i = 0; i < rows; i++) {
        for (int j = 0; j < cols; j++) {
            cin >> arr[i][j];
        }
    }
```

```
}

int sum = 0;
double product = 1;

for (int i = 0; i < rows; i++) {
    for (int j = 0; j < cols; j++) {
        sum += arr[i][j];
        product *= arr[i][j];
    }
}

int n=rows*cols;
double average=(sum)/n;

cout<<"Sum of all elements: "<<sum<<endl;
cout<<"Product of all elements: "<<product<<endl;
cout<<"Average of all elements: "<<average<<endl;

return 0;
}
```

Output:

```
C:\Users\Riphah.DESKTOP-SG1RKQD\Documents\delete6.exe
How many rows? 2
How many columns? 2
Enter elements of array:
4
5
4
5
Sum of all elements: 18
Product of all elements: 400
Average of all elements: 4

-----
Process exited after 6.673 seconds with return value 0
Press any key to continue . . .
```

Question 2:

```
#include <iostream>

using namespace std;

void swap(int*a,int*b)
{
    int temp=*a; *a =*b;
    *b=temp;
}

int main()
{
    int x,y;

    cout<<"Enter the value of x: ";
    cin>>x;

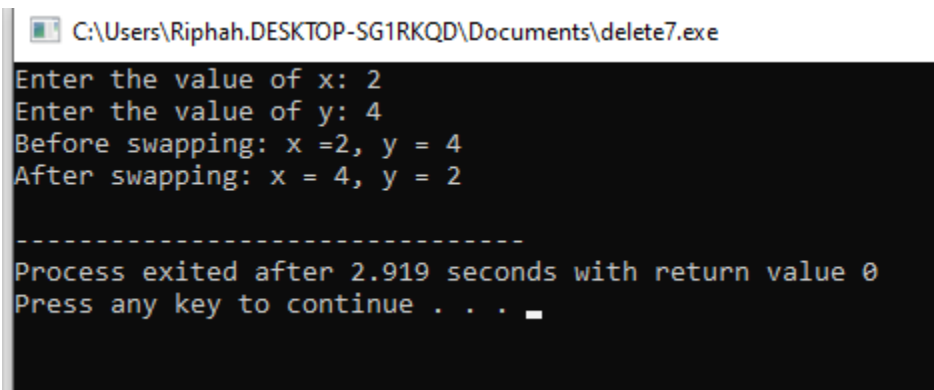
    cout<<"Enter the value of y: ";
```

```

cin>>y;

cout<<"Before swapping: x ="<<x<<" , y ="<<y<<endl;
swap(&x, &y);
cout<<"After swapping: x ="<<x<<" , y ="<<y<<endl;
return 0;
}

```



```

C:\Users\Riphah.DESKTOP-SG1RKQD\Documents\delete7.exe
Enter the value of x: 2
Enter the value of y: 4
Before swapping: x =2, y = 4
After swapping: x = 4, y = 2
-----
Process exited after 2.919 seconds with return value 0
Press any key to continue . . .

```

Question 3:

```

#include <iostream>

using namespace std;

int main() {
    const int size = 10;
    int arr[size];
    int maxVal, minVal;

    cout << "Enter 10 values:" << endl;
    for (int i = 0; i < size; ++i) {
        cin >> arr[i];
    }
}

```

```
}
```

```
maxVal = arr[0];
```

```
minVal = arr[0];
```

```
for (int i = 1; i < size; ++i) {
```

```
    if (arr[i] > maxVal) {
```

```
        maxVal = arr[i];
```

```
    }
```

```
    if (arr[i] < minVal) {
```

```
        minVal = arr[i];
```

```
    }
```

```
}
```

```
cout << "Largest value: " << maxVal << endl;
```

```
cout << "Smallest value: " << minVal << endl;
```

```
return 0;
```

```
}
```

C:\Users\Riphah.DESKTOP-SG1RKQD\Documents\delete8.exe

Enter 10 values:

1
2
3
4
5
6
7
8
9
10

Largest value: 10

Smallest value: 1

Process exited after 7.858 seconds with return value 0

Press any key to continue . . .