NATIONAL UNIVERSITY OF SCIENCES AND TECHNOLOGY

PROGRAMMING FUNDAMENTALS

LAB TASK # 8

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Q 1:

```cpp
#include <iostream>
using namespace std;
int main() {
    int  j=0, num=0,n=0;
    double average=0.0,sum=0.0;
    cout<<"Enter the total numbers you
want for average: ";
    cin>>n;
    int arr[n];
    for (int i = 0; i < n; i++) {
        arr[i]=0;
    }
    while (j<n){
        cout<<"Enter a num: ";
        cin>>num;
        arr[j]=num;
        sum=sum+arr[j];
        j++;
    }
    average = sum/n;
    cout<<"The average is: "<<average;
    return 0;
}
```

Q 1 (results):

```
  8          int arr[n];
  9          for (int i = 0; i < n; i++) {
 10              arr[i]=0;
 11          }
 12          while (j<n){
```
main

main.cpp ×

```
Enter a num:6
Enter a num:6
Enter a num:6
Enter a num:6
The avera
ge is: 6
Process finished with exit code 0
```

Q 2:

```cpp
#include <iostream>
using namespace std;
int main() {
    int arr[5];
    cout << "Enter 5 integers in
unsorted form:" << endl;
    for (int i = 0; i < 5; ++i) {
        cin >> arr[i];
    }
    for (int i = 0; i < 5 - 1; ++i) {
        for (int j = 0; j < 5 - i - 1;
++j) {
            if (arr[j] > arr[j + 1]) {
                int temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;
            }
        }
    }
    cout << "Sorted array using Bubble
Sort:" << endl;
    for (int i = 0; i < 5; ++i) {
        cout << arr[i] << " ";
    }
    return 0;
}
```

Q 2 (results):

```
11              if (arr[j] > arr[j + 1]) {
12                  int temp = arr[j];
13                  arr[j] = arr[j + 1];
14                  arr[j + 1] = temp;
```

main

main.cpp ×

```
10
-8
6
-98
Sorted array using Bubble Sort:
-98 -8 6 10 50
Process finished with exit code 0
```

Q 3:

```cpp
#include <iostream>
using namespace std;
int main() {
    int arr[5], num, temp;
    for (int i = 0; i < 5; i++) {
        cout<<"Enter a num: ";
        cin>>num;
        arr[i]=num;
    }
    for (int i = 0; i < 5-1; i++) {
        for (int j = i+1; j < 5; j++) {
            if (arr[j]<arr[i]){
                int temp=arr[j];
                arr[j]=arr[i];
                arr[i]=temp;
            }
        }
    }
    for (int i = 0; i < 5; i++) {
        cout<<arr[i]<<" ";
    }
    return 0;
}
```

Q 3 (results):

```
16              }
17          }
18          }
19      for (int i = 0; i < 5; i++) {
```

main

main.cpp ×

```
Enter a num:5
 Enter a num:-10
 Enter a num:-20
 Enter a num:90
 Enter a num:42
 -20 -10 5 42 90
Process finished with exit code 0
```