NATIONAL UNIVERSITY OF SCIENCES AND TECHNOLOGY

PROGRAMMING FUNDAMENTALS

HOME TASK # 8

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Q 1:

```cpp
#include <iostream>
using namespace std;
int main() {
    int arr[10], num, temp, total=0,
final=0, most_rep;
    for (int i = 0; i < 10; i++) {
        cout<<"Enter a num: ";
        cin>>num;
        arr[i]=num;
    }
    for (int i = 0; i < 10; i++) {
        for (int j = 0; j < 10; j++) {
            temp=arr[i];
            if (temp==arr[j]){
                total++;
            }
        }
        if (total>final){
            final=total;
            most_rep=arr[i];
        }
        total=0;
    }
    cout<<"The most repeated number is:
"<<most_rep;
    return 0;
}
```

Q 1 (results):

```
main
  main.cpp  ×

  Enter a num:9
  Enter a num:5
  Enter a num:6
  Enter a num:9
  Enter a num:5
  Enter a num:10
  Enter a num:8
  Ent
er a num:5
  The most repeated number is: 5
Process finished with exit code 0
```

Q 2:

```cpp
#include <iostream>
using namespace std;
int main() {
    int arr[8], num, temp, small, large,
largest=-9999, smallest=999999;
    for (int i = 0; i < 8; i++) {
        cout<<"Enter a num: ";
        cin>>num;
        arr[i]=num;
    }
    for (int i = 0; i < 8; i++) {
        for (int j = 0; j < 8; j++) {
            temp=arr[i];
            if (temp>arr[j]){
                large=temp;
            }
            if (temp<arr[j]){
                small=temp;
            }
        }
        if (large>largest){
            largest=large;
        }
        if (small>smallest){
            smallest=small;
        }
    }
    cout<<"The largest number is:
"<<largest;
    cout<<"The smallest number is: "<<small;
    return 0;
}
```

Q 2 (result):

```
22              }
23      ∨       if (small<smallest){
24                  smallest=small;
```

```
Enter a num:8
Enter a num:10
Enter a num:-20
Enter a num:23
 The largest numb
er is: 23
The smallest number is: -20
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;
    }
    temp=arr[2];
    arr[2]=arr[4];
    arr[4]=temp;
    for (int i = 0; i < 5; ++i) {
        cout << arr[i] << " ";
    }
    return 0;
}
```

Q 3 (results):

```
14              cout << arr[i] << " ";
15          }
16          return 0;
17      }
```

main

main.cpp ×

```
C:\papers\main.exe
Enter a num:5
 Enter a num:9
 Enter a num:10
 Enter a num:8
 Enter a num:-5
 5 9 -5 8 10
Process finished with exit code 0
```