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PPS-II(Lab-2)

1) Find out highest marks

```cpp
#include <iostream>
#include<cstring>
using namespace std;
typedef struct
{
    int r_no;
    int marks;
    char dept[3];
}student;
int main()
{
    int n;
    cin >> n;
    student* s=new student[n];
    if(s==NULL)
    {
        cout << "Memory allocation is failed.";
        return -1;
    }
 for(int i=0;i<n;i++)
     cin >> s[i].r_no >> s[i].marks >> s[i].dept;

    int ce_highest=0,ec_highest=0,it_highest=0;
for(int i=0;i<n;i++)
    {
        if(strcmp(s[i].dept,"CE")==0 && s[i].marks>ce_highest)
            ce_highest=s[i].marks;
        if(strcmp(s[i].dept,"EC")==0 && s[i].marks>ec_highest)
            ec_highest=s[i].marks;
        if(strcmp(s[i].dept,"IT")==0 && s[i].marks>it_highest)
            it_highest=s[i].marks;
    }
int highest=0;
if(ce_highest > ec_highest && ce_highest > it_highest)
    highest=ce_highest;
  else if(ec_highest > it_highest && ec_highest > ce_highest)
    highest=ec_highest;
  else
    highest=it_highest;
```

```cpp
        cout << highest << endl;
        cout << ce_highest << "\t" << "CE" << endl;
        cout << ec_highest << "\t" << "EC" << endl;
        cout << it_highest << "\t" << "IT" << endl;
    delete s;
    s=NULL;
    return 0;
}
```

2) Sort the numbers

```cpp
#include <iostream>
using namespace std;
void sort(int* num,int n)
{
    for(int i=0;i<n-1;i++)
    {
        for(int j=0;j<n-i-1;j++)
        {
            if(num[j+1]<num[j])
            {
                int temp=num[j];
                num[j]=num[j+1];
                num[j+1]=temp;
            }
        }
    }
}
int main()
{
    int n;
    cin >> n;
    int* num=new int[n];
    if(num==NULL)
    {
        cout << "Memory allocation is failed.";
        return -1;
    }
for(int i=0;i<n;i++)
    cin >> num[i];
sort(num,n);
for(int i=0;i<n;i++)
    cout << num[i] << " ";
delete num;
num=NULL;
return 0;
}
```

3) Sorting of names

```cpp
#include <iostream>
#include<cstring>
#include<cstdlib>
using namespace std;
int main()
{
  int n;
  cin >> n;
  getchar();
  char** name=new char*[n];
  if(name==NULL)
  {
    cout << "Memory allocation is failed.";
    return -1;
  }
  for(int i=0;i<n;i++)
    name[i]=new char[100];
  for(int i=0;i<n;i++)
  {
    scanf("%[^\n]s", name[i]);
    getchar();
  }

  for(int i=0;i<n-1;i++)
  {
    for(int j=0;j<n-i-1;j++)
    {
      if(strcasecmp(name[j],name[j+1])>0)
      {
        char* temp=name[j+1];
        name[j+1]=name[j];
        name[j]=temp;
      }
    }
  }

  cout << n << endl;
  for(int i=0;i<n;i++)
    cout << name[i] << endl;
delete []name;
name=NULL;
return 0;
}
```