Home work 1:
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Question 1:

```
def Max3(file):
    f= open(file)
    #read file, split the file to list of numbers (string), casting to int
    numbers = [float(number) for number in f.read().split()]
    f.close()
    max3 = [float('-inf')]*3

    for number in numbers:
        if (number>max3[0]) :
            max3[2] = max3[1]
            max3[1] = max3[0]
            max3[0] = number
        elif (number>max3[1]):
            max3[2] = max3[1]
            max3[1] = number
        elif (number>max3[2]):
            max3[2] = number
    return max3


def main():
    print(Max3('data1.txt')) #[1 2 3 4 5]
    print(Max3('data2.txt')) #[10 3 5 2 6 8 1]

if __name__ == '__main__':
    main()
```

Run Console:

```
[5.0, 4.0, 3.0]
[10.0, 8.0, 6.0]


Process finished with exit code 0
```

Question 2:

```
def Contains(sublist, lst):
    index = 0
    for num in sublist:
        found = False
        for i in range(index, len(lst)):
           if num == lst[i]:
               index = i+1
               found = True
               break
        if not found:
            return  False
    return True

def main():
    print(f"[1,2],[0,1,5,4,3,1,2,3]:")
    print(Contains([1,2],[0,1,5,4,3,1,2,3]))
    print(f"[2,1],[0,1,5,4,3,1,2,3]:")
    print(Contains([2,1],[0,1,5,4,3,1,2,3]))
    print(f"[1,1],[0,1,5,4,3,1,2,3]:")
    print(Contains([1,1],[0,1,5,4,3,1,2,3]))
    print(f"[4,4],[0,1,5,4,3,1,2,3]:")
    print(Contains([4,4],[0,1,5,4,3,1,2,3]))
    print(f"[],[0,1,5,4,3,1,2,3]:")
    print(Contains([],[0,1,5,4,3,1,2,3]))

if __name__ == '__main__':
    main()
```

Run Console:

```
[1,2],[0,1,5,4,3,1,2,3]:
True
[2,1],[0,1,5,4,3,1,2,3]:
False
[1,1],[0,1,5,4,3,1,2,3]:
True
[4,4],[0,1,5,4,3,1,2,3]:
False
[],[0,1,5,4,3,1,2,3]:
True

Process finished with exit code
```

Question 3:

```python
def Build_student_records(studentFile,gradesFile):
    f1 = open (studentFile)
    students_dic = {}
    for line in f1:
        line = line.strip().split(" ",1)
        students_dic[line[0]] = line[1]
    f1.close()
    f2 = open(gradesFile)
    student_grades = list()
    for line in f2:
        line = line.strip().replace(",","").split()
        student_grades.append(line)
    f2.close()
    student_records = list()
    for entry in student_grades:
        student_id = entry[0]
        grades = [x.split(":") for x in entry[1:]]
        dic = {key: val for key,val in grades}
        student_records.append([student_id, students_dic[student_id], dic])
    student_records.sort(key = lambda x:x[0])
    return student_records


def main():
    student_records = Build_student_records('students.txt','grades.txt')
    for student in student_records:
        print(f"{student[0]} {student[1]}")
        print(f"       ", end="")
        grade = [f"{key}:{student[2][key]}" for key in sorted(student[2])]
        print(", ".join(grade))

if __name__ == '__main__':
    main()
```

Run Console:

```
12345678 yaniv cohen
       31500:78, 31752:65
32423432 yosi levi
       31423:50, 31777:77, 31884:80
43242343 omer yardeni
       31434:80, 31455:87
73827322 yoni recter
       31501:74, 31842:90
87834834 bar adams
       31744:60

Process finished with exit code 0
```