X

Unit 13 - Week 11

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 11 Quiz

The due date for submitting this assignment has passed. Due on 2020-04-15, 23:59 IST.
As per our records you have not submitted this assignment.

Consider the code fragment below. If you find the 'for' loop new, note that it is the range for loop discussed in second lecture of week 10 (see printing of population).

```
map<string, map<string, double> >  studMarks;

studMarks["Sachin"]["cricket"] = 100;
studMarks["Sachin"]["music"] = 90;
studMarks["Lata"]["music"] = 100;
studMarks["Lata"]["cricket"] = 90;
string s; cin >> s;
cout << blank1 <<endl;

string sub; cin >> sub;
double best = - HUGE_VAL;  // - infinity
for(auto sm : studMarks){
  if(blank2 > 0){  // first check that the student has taken this subject
    best = max(best, blank3);
  }
}
cout << best << endl;
```

Note: While answering the questions posed below, please do not specify extra spaces in the answers you give.

1) What should blank1 be so that the number of subjects taken by student s will be printed?

- Lecture 24 : Data structure based programming : Part 1 : Introduction (unit?unit=96&lesson=145)
- Lecture 24 : Data structure based programming : Part 2 : Set and pair classes (unit?unit=96&lesson=146)
- Lecture 24 : Data structure based programming : Part 3 : Implementation of standard library data structures (unit?unit=96&lesson=147)
- Lecture 24 : Data structure based programming : Part 5 : typedef and lecture conclusion (unit?unit=96&lesson=148)
- Lecture 24 : Data structure based programming : Part 4 : Composing data structures (unit?unit=96&lesson=149)
- Lecture 25 : Medium size programs : Part 1 : The new marks display program (unit?unit=96&lesson=150)
- Lecture 25 : Medium size programs : Part 2 : Manual algorithm for new marks display (unit?unit=96&lesson=151)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) studMarks[s].size()

1 point

2) What should blank2 be so that the maximum marks obtained by any student in subject sub will be printed?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) sm.second.count(sub)
(Type: String) studMarks[sm.first].count(sub)

1 point

3) What should blank3 be so that the maximum marks obtained by any student in subject sub will be printed?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) sm.second[sub]
(Type: String) studMarks[sm.first][sub]

1 point

4) What does the following code fragment print?

```
vector<int> v;
v.push_back(60);
v.push_back(20);
for(auto e : v) cout << e <<' ';
```

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) 60 20

1 point

5) What does the following code fragment print?

```
set<int> s;
s.insert(60);
s.insert(20);
for(auto e : s) cout << e <<' ';
```

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) 20 60

- Lecture 25 : Medium size programs : Part 3 : RSMTAB and rest of the program (unit?unit=96&lesson=152)
- Lecture 25 : Medium size programs : Part 4 : Sophisticated solutions to marks display (unit?unit=96&lesson=153)
- Download Videos (unit?unit=96&lesson=187)
- Weekly Feedback (unit?unit=96&lesson=199)
- **Quiz : Week 11 Quiz (assessment?name=228)**
- Week 11 Programming Assignment 1 (/noc20_cs53/progassignment?name=229)
- Week 11 Programming Assignment 2 (/noc20_cs53/progassignment?name=230)

Week 12

Text Transcripts

1 point

I have a file in which each line contains the name of a person followed by a space, followed by the name of the father. It is assumed that no name contains a space character. Also note that the same name appearing several times refers to the same person.

6) I want to write a program that (1) reads the file, (2) reads names from the keyboard, and prints the name of the father of each, if this information is present in the file. For this, the information in the file must be stored in suitable data structures. Given below are some possible ways of doing this. State which is most convenient i.e. easiest for you to write. ***1 point***

- Two arrays whose elements are character strings. Note that a character string is an array of char.
- Vector of pairs of character strings
- map<string,string>, where map and string are from the standard library.

No, the answer is incorrect.
Score: 0

Accepted Answers:
map<string,string>, where map and string are from the standard library.

7) I want to write a program that (1) reads the file, (2) reads names from the keyboard and prints the names of the children of each, if the information is present in the file. Again you have to decide how the information is to be stored. You are required to use the standard library. A single data structure is expected, but it could be a composition, i.e. a vector of maps of strings or whatever. As your answer, give the complete type, e.g. vector<map<string,set<string> > >
This is of course only an example and not the answer. Also, when you specify your answer, do not include any spaces that are not strictly required.

No, the answer is incorrect.
Score: 0

Accepted Answers:
String containing any of these (OR): /(.)(?:\bmap>\b|\bmap>\b)(.*)/i*

1 point

We said that the table RSMTAB could be stored in sorted order of roll number and within the same roll number in order of the subject. Suppose we define the table as follows.

```
struct key{
  string rollno, subject;
  bool operator<(const key& rhs){
     //code to be inserted here ..
  }
};
struct RSMTAB{
  key keys[nstud];
  double marks [nstud];
};  // nstud = number of students
```

Now when we want to the know the marks of a student with roll number r in subject s, we will construct a key k consisting of the members r, s. Then we will need to search for k in the keys in RSMTAB. To do this using binary search, we need to define the operator '<' on keys. For this we need to define

operator '<' as follows, in which you have to fill in the blanks. Remember that '<' is already defined for strings.

```
// This is to be inserted in the struct definition of 'key' - above
  bool operator<(const key& rhs) const {
    if(blank1 < blank2) return true;
    if(blank1 > blank2) return false; //
    if(blank3 < blank4) return true;
  }
```

Note: While answering the questions posed below, please do not specify extra spaces in the answers you give. Also, do not use the C++ keyword 'this'. You can directly write the name of the member/field without using 'this'.

8) What is blank1?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) rollno

1 point

9) What is blank2?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) rhs.rollno

1 point

10) What is blank3?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) subject

1 point

11) What is blank4?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) rhs.subject

1 point