**eCampus**          ePortfolios          Community  [Bb] Content Coll   Rong Xu

🏠  |  Week 5 6/22   **Review Test Submission: Midterm Exam Ecampus**

# Review Test Submission: Midterm Exam Ecampus

| | |
|---|---|
| User | Rong Xu |
| Course | 20 SUMMER CSCE 121 398: INTRO PGM DESIGN CONCEPT |
| Test | Midterm Exam Ecampus |
| Started | 6/25/20 10:04 AM |
| Submitted | 6/25/20 10:50 AM |
| Due Date | 6/25/20 3:42 PM |
| Status | Completed |
| Attempt Score | 92.5 out of 100 points |
| Time Elapsed | 45 minutes out of 1 hour |
| Instructions | This exam is part one of a 2 part exam. The whole exam is scheduled to take 1 hour (60 minutes).  Part one should take 30 minutes.<br><br>You may use scratch paper and a pencil. NO Other outside sources are needed including web pages, computers, books, helpers, etc.<br><br>Please use an emoji or Raise hand when you have completed the test, then when acknowledged, you may leave.<br><br>Show up for lab for the rest of the test. |
| Results Displayed | All Answers, Submitted Answers, Correct Answers |

## Question 1                                                   2.5 out of 2.5 points

What is the output?
```
void IsEven(int num) {
 int even;
 if (num % 2 == 0) {
 even = 1;
 }
 else {
 even = 0;
 }
}


int main() {
 IsEven(7);
 cout << even;
 return 0;
}
```

Selected Answer:    ✅ d. No output: A compiler error occurs due to unknown variable even

Answers:              a. 0

                     b. 1

                     c. No output: Call to IsEven() fails due to no return value

                     ✅ d. No output: A compiler error occurs due to unknown variable even

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## Question 2

2.5 out of 2.5 points

Which XXX complete the program to calculate the volume of a cone?
XXX
int main () {
 double coneVol;
 coneVol = ConeVolume(2, 4);
 cout << coneVol;
 return 0;
}

double ConeVolume (double r, double h) {
 return (0.33) * 3.14 * ComputeSquare(r) * h;
}
double ComputeSquare (double r) {
 return r * r;
}

Selected Answer:         double ConeVolume (double r, double h);
                     ✅ d.  double ComputeSquare (double r);

Answers:              a. (nothing)

                     b. double ConeVolume, ComputeSquare;

                        double ConeVolume();
                     c.  double ComputeSquare();

                        double ConeVolume (double r, double h);
                     ✅ d.  double ComputeSquare (double r);

## Question 3

2.5 out of 2.5 points

The following program generates an error. Why?
```
void PrintSum(int num1, int num2) {
 cout << num1 + num2;
}
int main() {
 int y;
 y = PrintSum(4, 5);
 return 0;
}
```

Selected Answer:  ✅ d. PrintSum() has void return type, so cannot be assigned to a variable

Answers:           a. The void function is missing a "return;" statement.

                   b. The values 4 and 5 cannot be passed directly to PrintSum()

                   c. main() has a return statement that returns the value 0

                ✅ d. PrintSum() has void return type, so cannot be assigned to a variable

## Question 4

2.5 out of 2.5 points

How many function calls exist in the following code?
```
int Calc1 (int a, int b) {
 return a + b / 2;
}
int Calc2 (int a, int b) {
 return a * b / 100;
}
int main () {
 int x;
 int y;
 x = Calc1 (5,3);
 cout << x;
 y = Calc2 (5,3);
 cout << y;
 cout <<
 Calc2 (5,3);
}
```

Selected Answer:     ✅  b. 3

Answers:                  a. 2

                            ✅  b. 3

                                c. 4

                                d. 5

---

## Question 5

0 out of 2.5 points

Which is the best function stub for a function that calculates an item's tax?

Selected Answer:

```
double ComputeTax(double itemPrice) {
  double TAXRATE = 0.0675;
  return itemPrice * TAXRATE;
}
```

❌  a.

Answers:

```
double ComputeTax(double itemPrice) {
  double TAXRATE = 0.0675;
  return itemPrice * TAXRATE;
}
```

a.

```
double ComputeTax(double itemPrice) {
  double tax;
  return tax;
}
```

b.

```
double ComputeTax(double itemPrice) {
  cout << "FIXME: Calculate tax" << endl;
  return 0.0;
}
```

✅  c.

```
double ComputeTax(double itemPrice) {
  double tax = 0.0;
}
```

d.

---

## Question 6

2.5 out of 2.5 points

What will a compiler do for the following code?
```
/*
 numItems = 2; /* Total items to buy */
 rate = 0.5;
*/
```

Selected Answer:     ✅  d. Generate an error.

Answers:                  a. Ignore numItems = 2, but generate code for rate = 0.5.

b. Generate code for numItems = 2, but ignore rate = 0.5.

c. Ignore both statements.

✅ d. Generate an error.

## Question 7

2.5 out of 2.5 points

What is the ending value of w?
int w;
int y;
y = 34;
w = y % 5;

Selected Answer: ✅ b. 4

Answers:　　　　　a. 1

✅ b. 4

c. 6

d. 7

## Question 8

2.5 out of 2.5 points

Which declaration assigns a variable with 5 such that the value can not be later changed?

Selected Answer: ✅ d. const int NUM_ITEMS = 5;

Answers:　　　　a. const int = 5;

b. int numItems = 5;

c. int NUM_ITEMS = 5;

✅ d. const int NUM_ITEMS = 5;

## Question 9

2.5 out of 2.5 points

What is the ending value of y?
int x;
int y;
x = 6;
y = (1 / 2) * (x + 5);

Selected Answer: ✅ a. 0

Answers:　　　　✅ a. 0

b. 3

c. 5

d. 6

## Question 10

2.5 out of 2.5 points

Dice have 6 sides, with values 1, 2, 3, 4, 5, and 6. Which expression randomly rolls one dice, directly yielding one of those values?

Selected Answer: ✅ d. (rand() % 6) + 1

Answers:
    a. (rand() % 5)

    b. (rand() % 5) + 1

    c. (rand() % 6)

✅ d. (rand() % 6) + 1

## Question 11

2.5 out of 2.5 points

What is the ending value of y? sqrt(u) returns the square root of u. pow(u, v) returns u raised to the power of v.
x = 9.0;
y = 4.0;
y = pow(sqrt(x), sqrt(y));

Selected Answer: ✅ b. 9.0

Answers:
    a. 8.0

✅ b. 9.0

    c. 6561.0

    d. Error: The sqrt functions cannot appear in the call to the pow function

## Question 12

2.5 out of 2.5 points

What is the ending value of y?
int x;
int y;
x = 2;
y = ((x + 1) / 5) + (x / 2) ;

Selected Answer: ✅ a. 1

Answers: ✅ a. 1

    b. 1.6

    c. 4.5

    d. Error: Division not possible

## Question 13

2.5 out of 2.5 points

Which expression is most appropriate for randomly choosing a day of the week?

Selected Answer: ✅ c. rand() % 7;

Answers:
    a. rand() % 1;

        b. rand() % 6;

   ✅  c. rand() % 7;

        d. rand() % 8;

## Question 14

2.5 out of 2.5 points

What is output?
#include <iostream>
#include <ios>
#include <iomanip>
using namespace std;


int main() {
 cout << setfill('-') << setw(7) << "Tim" << endl;
 return 0;
}

Selected Answer:   ✅ b. ----Tim

Answers:            a. -------Tim

               ✅  b. ----Tim

                   c. Tim-------

                   d. Tim----

## Question 15

2.5 out of 2.5 points

The inFS.open(str) function has a string parameter str that specifies the _____ of the file to open.

Selected Answer:   ✅ c. name

Answers:            a. size

                   b. contents

               ✅  c. name

                   d. reference

## Question 16

2.5 out of 2.5 points

Which XXX (string stream) returns the following output? Hello John Denver
#include <iostream>
#include <sstream>
#include <string>
using namespace std;

```
int main() {
 string userInfo = "John Denver";
 XXX
 string firstName;
 string lastName;
 inSS >> firstName;
 inSS >> lastName;
 cout << "Hello " << firstName << " " << lastName << endl;
 return 0;
}
```

Selected Answer: ✅ a. istringstream inSS(userInfo);

Answers: ✅ a. istringstream inSS(userInfo);

b. ostringstreaminSS(userInfo);

c. inSS(userInfo);

d. ostringstreamuserInfo;

## Question 17

2.5 out of 2.5 points

_____ is a predefined ostream object that is pre-associated with a system's standard output, usually a computer screen.

Selected Answer: ✅ b. cout

Answers: a. cin

✅ b. cout

c. >>

d. <<

## Question 18

2.5 out of 2.5 points

What is output?
```
#include <iostream>
#include <ios>
#include <iomanip>
using namespace std;

int main() {
 int num = 5;
 for(int i = 0; i < 3; i++) {
```

```
cout << num << setw(5) << setfill('*') << num << endl;
num = num * 5;
}
return 0;
}
```

Selected Answer:          5****5
                          25***25
                          125**125
   ✅  d.

Answers:                  5****
                          25***
                          125**
          a.

                          5    5
                          25 25
                          125 125
          b.

                          ****5
                          ***25
                          **125
          c.

                          5****5
                          25***25
                          125**125
   ✅  d.

## Question 19                                    2.5 out of 2.5 points

A program can insert characters into an ostringstream buffer using the _____ operator.

Selected Answer:   ✅  b. <<

Answers:               a. >>

                   ✅  b. <<

                       c. ->

                       d. .

## Question 20                                    2.5 out of 2.5 points

The eof() function of input streams returns _____.

Selected Answer:   ✅  b. false when the end of the file has not been reached

Answers:　　　　　a. false when the end of the file has been reached

✅ b. false when the end of the file has not been reached

c. true when the end of the file has not been reached

d. true when at the start of the file

## Question 21

2.5 out of 2.5 points

What is the output if 123ABC is the input?
```
#include <iostream>
using namespace std;


int main() {
 int number;
 cin >> number;
 cout << number;
}
```

Selected Answer:　✅ b. 123

Answers:　　　　a. 123ABC

✅ b. 123

c. ABC

d. Error: Variable type error.

## Question 22

2.5 out of 2.5 points

The _____ function reads an input line into a string.

Selected Answer:　✅ b. getline();

Answers:　　　　a. str()

✅ b. getline();

c. getchar();

d. clear();

## Question 23

0 out of 2.5 points

The code for myoutfile.txt generates an error. Why?
```
#include <iostream>
#include <fstream>
using namespace std;
int main()
{
 ofstreamoutFS;
```

```
if (!outFS.is_open())
{
cout << "Could not open file myoutfile.txt." << endl;
return 1;
}
outFS << "Hello" << endl;
outFS << "1 2 3" << endl;
outFS.close();
return 0;
}
```

| | |
|---|---|
| Selected Answer: | ❌ c. The file stream header is not invoked |
| Answers: | a. outFS.close(); should not be used while writing into the file |
| | ✅ b. The file 'myoutfile.txt' has not been opened |
| | c. The file stream header is not invoked |
| | d. Data cannot be directly fed into ofstream using outFS << |

## Question 24

2.5 out of 2.5 points

If a file exists in a directory and contains data, when an ofstream is used to write data into the file ____.

| | |
|---|---|
| Selected Answer: | ✅ c. the file is overwritten with the new data. |
| Answers: | a. the new data is appended at the end of the file. |
| | b. the system creates a duplicate file for the new data. |
| | ✅ c. the file is overwritten with the new data. |
| | d. an error is generated as the file cannot be overwritten. |

## Question 25

2.5 out of 2.5 points

Which XXX will search the input name in the GuestList.txt file?

```
#include <iostream>
#include <fstream>
using namespace std;


int main() {
  ifstream inFS;
  string userName;
  string listName;
  int flag = 0;
```

```
inFS.open("GuestList.txt");
if (!inFS.is_open()) {
cout << "Could not open file numFile.txt." << endl;
return 1;
}


cout << "Enter guest name: ";
cin >> userName;
while (!inFS.eof()) {
inFS >> listName;
XXX {
if(listName == userName) {
flag = 1;
}
}
}
if(flag == 1){
cout << userName << " is in the guest list" << endl;
}
else {
cout << userName << " not in the guest list" << endl;
}
inFS.close();
return 0;
}
```

Selected Answer: ✅ d. if (!inFS.fail())

Answers: a. if (inFS.fail)

b. if (!inFS.fail)

c. if (inFS.fail())

✅ d. if (!inFS.fail())

## Question 26

2.5 out of 2.5 points

What is the ending value of userString? (Note the question asks about userString, not about x).
userString = "FaceBook";
x = tolower(userString.at(4));

Selected Answer: ✅ b. "FaceBook"

Answers: a. "Facebook"

✅ b. "FaceBook"

c. "Faceook"

d. "b"

## Question 27

2.5 out of 2.5 points

Given string str is "Great", which choice has all matching expressions?

Selected Answer: ✅ a. str == "Great"

Answers: ✅ a. str == "Great"

b. str == "Great", str == "great"

c. str == "Great", str == "Great!"

d. str == "Great", str == "great", str == "Great!"

## Question 28

2.5 out of 2.5 points

Given string s is "Sunday", what is the ending value of char myChar?
myChar = s.at(s.size() - 1);

Selected Answer: ✅ b. y

Answers: a. a

✅ b. y

c. "

d. No such character

## Question 29

2.5 out of 2.5 points

What is the final value of y?
int x = 6;
int y = 2;

```
if (x < 10) {
 if (y < 5) {
 y = y + 1;
 }
 else {
 y = 7;
 }
}
else {
 y = y + 10;
}
```

Selected Answer:  ✅ a. 3

Answers:          ✅ a. 3

                     b. 7

                     c. 12

                     d. 13

## Question 30

2.5 out of 2.5 points

Which XXX outputs all the elements of vector myVals?
```
for (i = 0; XXX; ++i) {
 cout << myVals.at(i) << " ";
}
```

Selected Answer:  ✅ c. i < myVals.size();

Answers:             a. i < myVals.size;

                     b. i <= myVals.size();

                  ✅ c. i < myVals.size();

                     d. No such expression as the number of elements is unknown.

## Question 31

2.5 out of 2.5 points

The following program generates an error. Why?
```
const int NUM_ELEMENTS = 5;
vector<int> userVals(NUM_ELEMENTS);
unsigned int i;
userVals.at(0) = 1;
userVals.at(1) = 7;
userVals.at(2) = 4;

for (i = 0; i <= NUM_ELEMENTS; ++i) {
 cout << userVals.at(i) << endl;
```

```
        }
```

Selected       ✅ d.
Answer:        The for loop tries to access an index that is out of the vector's valid range.

Answers:          a. Variable i is declared as an unsigned integer.

                  b. The vector userVals has 5 elements, but only 3 have values assigned.

                  c. The integer NUM_ELEMENTS is declared as a constant

               ✅ d.
               The for loop tries to access an index that is out of the vector's valid range.

---

## Question 32

2.5 out of 2.5 points

Given the two vectors, which code will output all the vectors' elements, in the order key, item followed by a newline?
```
vector<int> keysList(SIZE_LIST);
vector<int> itemsList(SIZE_LIST);
```

Selected          `for (i = 0; i < keysList.size(); ++i) {`
Answer:              `cout << keyList.at(i) << ", " << itemsList.at(i) << endl;`
                  `}`
               ✅ d.

Answers:          a.
               `cout << keyList.at(SIZE_LIST - 1) << ", " << itemsList.at(SIZE_LIST - 1) << endl;`

                  b. `cout << keyList.at(SIZE_LIST) << ", " << itemsList.at(SIZE_LIST) << endl;`

                  `for (i = 0; i < keysList.size() - 1; ++i) {`
                   `cout << keyList.at(i) << ", " << itemsList.at(i) << endl;`
                  `}`
                  c.

                  `for (i = 0; i < keysList.size(); ++i) {`
                   `cout << keyList.at(i) << ", " << itemsList.at(i) << endl;`
                  `}`
               ✅ d.

---

## Question 33

2.5 out of 2.5 points

How many times does the while loop execute for the given input values of -1 4 0 9?
```
userNum = 3;
while (userNum > 0) {
 // Do something
 // Get userNum from input
}
```

Selected Answer:    ✅ b. 1

Answers:          a. 0

✅ b. 1

c. 2

d. 3

## Question 34

2.5 out of 2.5 points

Which expressions for YYY and ZZZ will output "Young" for ages less than 20 and "Young Adolescent" for ages between 10 and 20?
int u;
cin >> u;
if (YYY) {
 cout << "Young";
 if (ZZZ) {
 cout << " Adolescent";
 }
}

Selected Answer:    ✅ b. YYY: u < 20 ZZZ: u > 10

Answers:            a. YYY: u < 20 ZZZ: u < 10

✅ b. YYY: u < 20 ZZZ: u > 10

c. YYY: u > 20 ZZZ: u < 10

d. YYY: u > 20 ZZZ: u > 10

## Question 35

2.5 out of 2.5 points

Which XXX and YYY correctly output the smallest value? Vector userVals contains integers (which may be positive or negative). Choices are in the form XXX / YYY.
// Determine smallest (min) value
int minVal;
XXX
for (i = 0; i < userVals.size(); ++i) {
 if (YYY) {
 minVal = userVals.at(i);
 }
}
cout << "Min: " << minVal << endl;

Selected Answer:    ✅ d. minVal = userVals.at(0);  /  userVals.at(i) < minVal

Answers:            a. minVal = 0;  /  userVal > minVal

b. minVal = 0;  /  userVal < minVal

c. minVal = userVals.at(0);　/　userVals.at(i) > minVal

✅ d. minVal = userVals.at(0);　/　userVals.at(i) < minVal

## Question 36

2.5 out of 2.5 points

Given two vectors, studentNames that maintains a list of students, and studentScores that has a list of the scores for each student, which XXX and YYY prints out only the student names whose score is above 80? Choices are in the form XXX/ YYY.
vector<string> studentNames(NUM_STUDENTS);
vector<int> studentScores(NUM_STUDENTS);
unsigned int i;


for (i = 0; i < studentScores.size(); ++i) {
 if (XXX > 80) {
 cout << YYY << " ";
 }
}

Selected Answer:　✅　c. studentScores.at(i)　/　studentNames.at(i)

Answers:　　　　　a. studentNames.at(i)　/　studentNames.at(i)

　　　　　　　　　b. studentNames.at(i)　/　studentScores.at(i)

　　　　　✅　c. studentScores.at(i)　/　studentNames.at(i)

　　　　　　　　　d. studentScores.at(i)　/　studentScores.at(i)

## Question 37

2.5 out of 2.5 points

The numNegatives variable counts the number of negative values in the vector userVals. What should numNegatives be initialized to?
vector<int> userVals(20);
unsigned int i;
numNegatives = XXX;
for (i = 0; i < userValues.size(); ++i) {
 if (userValues.at(i) < 0) {
 numNegatives = numNegatives + 1;
 }
}

Selected Answer:　✅　b. 0

Answers:　　　　　a. No initialization needed

　　　　　✅　b. 0

c. -1

d. userVals.at(0)

## Question 38

2.5 out of 2.5 points

What are the ending contents of the vector? Choices show elements in index order 0, 1, 2.
vector<int> yearsList(3);
yearsList.at(0) = 5;
yearsList.at(1) = yearsList.at(0);
yearsList.at(0) = 10;
yearsList.at(2) = yearsList.at(1);

Selected Answer:  ✅  d. 10, 5, 5

Answers:          a. 5, 5, 5

                  b. 5, 10, 10

                  c. 10, 10, 10

                  ✅ d. 10, 5, 5

## Question 39

0 out of 2.5 points

Which best describes the meaning of a 1 (true) being output? Assume v is a large vector of ints.
int i;
bool s;
for (i = 0; i < v.size(); ++i) {
 if (v.at(i) < 0) {
 s = true;
 }
 else {
 s = false;
 }
}
cout << s;

Selected Answer:  ❌  a. first value is negative

Answers:          a. first value is negative

                  b. all values are negative

                  c. some value other than the last is negative

                  ✅ d. last value is negative

**Question 40**                                                    2.5 out of 2.5 points

Which input value causes "Goodbye" to be output next?
int x;
cin >> x;
while (x >= 0) {
 // Do something
 cin >> x;
}
cout << "Goodbye";

Selected Answer:    ✅ a. -1

Answers:            ✅ a. -1

                       b. 0

                       c. 1

                       d. No such value

Tuesday, August 4, 2020 2:56:43 PM CDT

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