ALGONQUIN COLLEGE

MIDTERM RESULTS
CST8110

Winter 2017

Question 1

Which of the following does the mathematical operations of the computer?

a) CPU

b) ALU

c) IOU

d) GPU

Question 1

Which of the following does the mathematical operations of the computer?

a) CPU

b) ALU

c) IOU

d) GPU

87.18% got it right

Question 2

Which of the following data type uses the least bits in memory?

a) int

b) boolean

c) double

d) float

e) all of the above

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Which of the following data type uses the least bits in memory?

a) int

b) boolean

c) double

d) float

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91.67% got it right

Question 3

Java is a:

a) A compiled language
b) An interpreted language
c) Both a compiled and interpreted language
d) Neither a compiled nor interpreted language

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a) A compiled language
b) An interpreted language
c) Both a compiled and interpreted language
d) Neither a compiled nor interpreted language

81.41% got it right

Question 4

What value is in memory for the variables num1 after the following executes?

```
int num1 = 2 + 10 % 2 * 3;
```

a) 2

b) 6

c) 0

d) 22

e) 4

Question 4

What value is in memory for the variables num1 after the following executes?

```
int num1 = 2 + 10 % 2 * 3;
```

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b) 6

c) 0

d) 22

e) 4

71.15% got it right

Question 5

Select all of the following statements that are **true**:

i. Class name must be **exactly** the same as the java file name (other than the .java extension)

ii. Object name must **not** be the same as the class name (even if it is a different case)

iii. Default constructor must **not** have any parameters

iv. There can **only** be one constructor per class

v. A class can have two or more methods with the same name

a) All of the above b) i, iii and v c) i, ii, iii, and v

d) i, iii, iv and v e) ii and iv

Question 5

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i. Class name must be **exactly** the same as the java file name (other than the .java extension)

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a) All of the above b) i, iii and v c) i, ii, iii, and v

d) i, iii, iv and v e) ii and iv

50.00% got it right

Question 6

The purpose of a constructor in a class is:

a) to allocate memory for the data members of an object

b) to initialize a class

c) to read data into a class

d) none of the above

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The purpose of a constructor in a class is:

a) to allocate memory for the data members of an object

b) to initialize a class

c) to read data into a class

d) none of the above

54.49% got it right

Question 7

Which of the following will print the letter “c” for the statement: String letters="abc";

a) System.out.println(letters.charAt(1));

b) System.out.println(letters.charAt(2));

c) System.out.println(letters.charAt(3));

d) System.out.println(letters.charAt(letters.length()));

e) Both answers c and d

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c) System.out.println(letters.charAt(3));

d) System.out.println(letters.charAt(letters.length()));

e) Both answers c and d

70.51% got it right

Question 8

To compile a Java source code file HelloWorld.java, which command should be used at a Command Prompt?

a) java HelloWorld

b) javac HelloWorld.java

c) HelloWorld.java

d) HelloWorld

Question 8

To compile a Java source code file HelloWorld.java, which command should be used at a Command Prompt?

a) java HelloWorld

b) javac HelloWorld.java

c) HelloWorld.java

d) HelloWorld

85.26% got it right

Question 9

The statement in main

System.out.print(“Answer is ”+5+10);

would print:

a) Answer is 15

b) Answer is 510

c) Answer is 5+10

d) “Answer is “+5+10

Question 9

The statement in main

System.out.print(“Answer is ”+5+10);

would print:

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b) Answer is 510

c) Answer is 5+10

d) “Answer is “+5+10

50.00% got it right

Question 10

Select all datatypes that are considered primitives in Java?

i) int ii) float iii) String iv) Date v) char

a) iii and iv b) i, ii and v c) all of the above d) iv and v e) i and v

Question 10

Select all datatypes that are considered primitives in Java?

i) int ii) float iii) String iv) Date v) char

a) iii and iv b) i, ii and v c) all of the above d) iv and v e) i and v

85.26% got it right

Question 11

What will display (exactly) from the following segment of code?

```
System.out.println ("My name is\n" + "Howard");
System.out.print ("Rosenblum");
System.out.print ("Your name is: " );
```

a) My name is
Howard
RosenblumYour name is:

b) My name isHoward
Rosenblum
Your name is:

c) My name is
Howard
Rosenblum
Your name is:

d) My name is\nHoward
Rosenblum
Your name is:

e) My name is\nHoward
RosenblumYour name is:

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System.out.print (“Rosenblum”);
System.out.print (“Your name is: “ );
```

a) My name is
Howard
RosenblumYour name is:

75.64% got it right

Question 12

Given a method in a class of **public int doSomething (double x){…}**. What is a valid call statement on object obj1 of the class in main?

a) int y = obj1.doSomething(2.5);

b) double y = obj1.doSomething(double 2);

c) float y = doSomething(obj1,2);

d) int y = obj1(2.5).doSomething();

e) int y = obj.doSomething (float x);

Question 12

Given a method in a class of **public int doSomething (double x){…}**. What is a valid call statement on object obj1 of the class in main?

a) int y = obj1.doSomething(2.5);

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c) float y = doSomething(obj1,2);

d) int y = obj1(2.5).doSomething();

e) int y = obj.doSomething (float x);

62.82% got it right

Question 13

Which of the following statements about methods is true?

a) All the parameters must be the same type

b) A parameter can be of type “void”

c) A method can return more than one type

d) A method can return an object

e) A class can have two methods with the same name and parameter list, as long as they return a different type

Question 13

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d) A method can return an object

e) A class can have two methods with the same name and parameter list, as long as they return a different type

29.49% got it right

Question 14

Which one of the following statements is **true?**

a) Declaring a class uses memory, declaring an object does not

b) Declaring an object uses memory, declaring a class does not

c) Declaring a class or an object uses memory

d) Declaring a class or an object does not uses memory

Question 14

Which one of the following statements is **true?**

a) Declaring a class uses memory, declaring an object does not

b) Declaring an object uses memory, declaring a class does not

c) Declaring a class or an object uses memory

d) Declaring a class or an object does not uses memory

73.08% got it right

Question 15

By **convention**, which of the following should NOT start with a capital letter?

a) Variable name

b) Method name

c) Object name

d) All of the others

Question 15

By **convention**, which of the following should NOT start with a capital letter?

a) Variable name

b) Method name

c) Object name

d) All of the others

65.38% got it right

Questions 16-18

```
public class HealthClubMember {
   private int memberId;        // positive value
   private int membershipLevel; // 0 or 1
   private String name;

   public HealthClubMember( ) {
        memberId = 0;
        membershipLevel = 0;
        name = new String(" ");
   }

   public void display() {
        System.out.println (name + “ Id:” + memberId + " has membership level "
     + membershipLevel);
   }
}
```

Question 16

If the following statements were in main:

```
HealthClubMember member = new
   HealthClubMember();
member.display();
```

they would print:

a) name Id:memberId has membership level membershipLevel
b) " " + Id: + 0 + has membership level + 0
c) " " Id:0 has membership level 0
d) Id:0 has membership level 0
e) Nothing

Question 16

If the following statements were in main:

```
HealthClubMember member = new
   HealthClubMember();
member.display();
```

they would print:

a) name Id:memberId has membership level membershipLevel
b) " " + Id: + 0 + has membership level + 0
c) " " Id:0 has membership level 0
d) Id:0 has membership level 0
e) Nothing

73.08% got it right

Question 17

Write an initial constructor for the HealthClubMember class:

Question 17(expected answer)

Write an initial constructor for the HealthClubMember class:

```
public HealthClubMember(int id, int level, String nm) {
        memberId = id;
        membershipLevel = level;
        name = new String(nm);
}
```

Question 17(alternate answer)

Write an initial constructor for the HealthClubMember class:

```
public HealthClubMember(int id, int level, String nm) {
        memberId = id;
        membershipLevel = level;
        name = nm;
}
```

Question 17(another answer)

Write an initial constructor for the HealthClubMember class:

```
public HealthClubMember(int memberId,
                        int membershipLevel,
                        String name) {
    this.memberId = memberId;
    this.membershipLevel = membershipLevel;
    this.name = new String(name);
}
```

Question 17(yet another answer)

Write an initial constructor for the HealthClubMember class:

```
public HealthClubMember(int id) {
        memberId = id;
        membershipLevel = 0;
        name = new String(“ “);
}
```

Question 17(wrong answer)

Write an initial constructor for the HealthClubMember class:

```
public HealthClubMember(int id, int level, String nm) {
        id = memberId;
        level = membershipLevel;
        nm = name;
}
```

Question 17(also wrong answer)

Write an initial constructor for the HealthClubMember class:

```
public HealthClubMember(int memberId,
                        int membershipLevel,
                        String name) {
    memberId = this.memberId;
    membershipLevel = this.membershipLevel;
    name = this.name;
}
```

Question 17 (Key parts)

Write an initial constructor for the HealthClubMember class:

- Method name is correct
- Has no returns
- Contains at least one parameter
- Assignments are in the right direction

Question 18

Write a **testplan** for a new method called “calcBill” for the HealthClubMember class above. The method **return** a value to the user of the membership cost, which will have been computed in the method (assume that “memberId”, “membershipLevel”, and “name” have valid values):

- Level 0 members pay $20 while level 1 members pay $30
- The first 100 members get their membership at half price

Question 18

Description	Input	Output
Normal – level 0, early member	memberId = 10 membershipLevel=0	10
Normal – level 1, early member	memberId = 10 membershipLevel=1	15
Normal – level 0, later member	memberId = 1000 membershipLevel=0	20
Normal – level 1, later member	memberId = 1000 membershipLevel=1	30
Boundary – level 0, member 1	memberId = 1 membershipLevel=0	10
Boundary – level 1, member 1	memberId = 1 membershipLevel=1	15
Boundary – level 0, member 100	memberId = 100 membershipLevel=0	10
Boundary – level 1, member 100	memberId = 100 membershipLevel=1	15

Question 18

Description	Input	Output
Boundary – level 0, member 101	memberId = 101 membershipLevel=0	20
Boundary – level 1, member 101	memberId = 101 membershipLevel=1	30

Question 18

Description	Input	Output
Boundary – level 0, member 101	memberId = 101 membershipLevel=0	20
Boundary – level 1, member 101	memberId = 101 membershipLevel=1	30

Pick any 4 out of the 10 to get full marks

Stats

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- 156 of 172 (90.70%) students wrote the midterm (both my classes)

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- Class average was 69.13%

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- Class median was 68.75%

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- 90.38% passes the midterm (50% or better)

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- 156 of 172 (90.70%) students wrote the midterm (both my classes)
- Class average was 69.13%
- Class median was 68.75%
- 90.38% passes the midterm (50% or better)
- 76.28% got 60% or better

Questions? Comments?