Homework 10

Q1: IndexOf method returns the index of first occurence specified characters in a string. If there is no string, it returns the minus one. Sb object is empty. Then, this code throws the StringIndexOutOfBoundsException .

Answer is option E

Q2: According to the given this precedence table below, The precedence level start of one and ends with fourteen. I assume the ++ operator with unary post-increment at level 15.

If we show the precedence order with number option A (11, 11, 1, 14) include decreasing value, In option B (12, 12, 12, 11) has an decreasing value. Also option D (6, 12, 14, 8) has decreasing value. Other option C and E same or increasing order of precedence

Answer options C and E

Resource: https://introcs.cs.princeton.edu/java/11precedence/

Q3: Java Beans enables some conventions in the method signature.

For setter methods, ıt should be public method. Return type should be void. The setter method should be take prefix with set keyword. It should take at least one argument. So `public void setHead(int head`) method is a valid bean method.

If there is an getter method. It should be public in nature. The return-type should not be void according to our requirement we have to give return-type. The getter method should take prefix with get. This method should not take any argument. So `public void getShoulders()` method is a valid bean method.

If the property is not a boolean, the getter method's prefix should be get. For example, getName() is a valid JavaBeans   getter name for a property named "name." It isn't required to have a variable named "name". The name of the property is inferred from the getters and setters, not through any variables in the class.If the property is a boolean, the getter method's prefix is either get or is. For example, getPrinted() or isPrinted() are both valid JavaBeans names for a boolean property.

Answer options B, C, F

Q4: In Java, Array Objects does not use a method to determine it's size. The right way to do it is documented in the Java specification. It mentions that a Java Array has a property declared as one line needs to be changed and half of the cells in the 2d array have a 0 zero value. Code prints the only line number

Answer options A, E

Q5: *Errors*
- Errors in java are of type java.lang.Error.
- All errors in java are unchecked type.
- Errors happen at run time. They will not be known to compiler.
- It is impossible to recover from errors.
- Errors are mostly caused by the environment in which application is running.

Exceptions
- Exceptions in java are of type java.lang.Exception.
- Exceptions include both checked as well as unchecked type.
- Checked exceptions are known to compiler where as unchecked exceptions are not known to compiler because they occur at run time. You can recover from exceptions by handling them through try-catch blocks.
- Exceptions are mainly caused by the application itself.
- You can recover from exceptions by handling them through try-catch blocks.

Resource: https://javaconceptoftheday.com/difference-between-error-vs-exception-in-java/

If there error thrown the system can not recoverable. Error class is same degree class with excepitons İn Throwable class. An application should catch exceptions not the errors.

Answer options B, E

Q6: Java.lang.object (**D**), savana.sand.wave (**B**), jungle tree huchingo (**C**) these are automatically accessible without using its full package name.

Answer options B, C, D

Q7: Arraylist l = new Arraylist(); → This is mutable
String s = new String → This is immutable
StringBuilder sb new StringBuilder → This is mutable object
LocalDateTime t LocalDateTime.now

Java LocalDateTime class is an immutable date-time object that represents a date-time, with the default format as yyyy-MM-dd-HH-mm-ss.zzz. It inherits object class and implements the ChronoLocalDateTime interface. Final result is two statement.

Answer is Option C

Q8: In given code do while loop turns two times during the execution. At first step delete method erase the "Leaves" part. After that second part erase the " grow" part. The result is "wing" characters.

Answer is option C

Q9: Ceiling and floor is different objects so two of the statements return false. The last statement is true because the of different objects are assigned to each other.

Answer is option D

Q10: toUpperCase method returns a new String object which is the original string in upper case. The toUpperCase() method of String class simply used in conversion of giving string into captial form.

In first declaration of method compare the capitalized version with the original false. They are does not match each other and returns false.Capitalized letter does not match the original value.

We can use == operators for reference comparison (address comparison) and .equals() method for content comparison. In simple words, == checks if both objects point to the same memory location whereas .equals() evaluates to the comparison of values in the objects. If a class does not override the equals method, then by default it uses equals (Object o) method of the closest parent class that has overridden this method. See this for detail. Equal ignore case This method returns true if the argument is not null and the Strings are equal, ignoring case; false otherwise become true. The result is three false and three true in order.

Answer is option C

Q11: This code compiled successfully with removing Lines 15,17 (A) – Lines 15,16,21 (B) – Lines 17(C). It compiles correctly with option D but code prints four x instead of 5.

Answer options A, B, C

Q12: If there is declaration of long value it must be represented with L or l letter.

Answer options D , E

Q13: Local time of method gets int hour, minute, second parameter. This code does not get in while loop because get hour not smaller than one. So this get prints nothing

Answer is option A

Q14: When the code running compiler give the null pointer exception because the game array filled with null by default.

Answer is option D

Q15: The compiler gives the incorrect number of parameters error because of the square brackets.

Answer options C, E

Q16: After the sequential assignments the string sandal has no referral. This is candidate for garbage collector and not guaranteed.

Answer options B, D

Q17: If the code add the throws BubbleException in main method, this code print the stack trace of Runtime exception. But there is lack of the throws exception.

Answer is option C

Q18: The lambda expression needs the functional interface so I added the util.function package. After that this expression return the list below zero. This lead us one answer its minus five.

Answer is option A

Q19: If a try statement keyword used **catch, finally** are optional **finalize** is not about exception handling throws is used method declaration.

Answer is option B

Q20: This code returns 5. The control flow enters the outer while loop, it increased with one it becomes 9 then result value decreased one by one till the equal of five after that result equals 5 and break the loop. Result is equal five at final.

Answer is option A

Q21: This code compiled successfully. Firstly teeth value equals zero. First snap method runs with the one and after that increased again the two

Answer is option C

Q22: In this question, Concat method take string type parameter or <u>int</u> needs to reassigned to witch variable. String type is immutable.

Answer is option A

Q23: The default protected and abstract methods are applied the interface method. Private static and final methods are non-virtual methods.

Answers are A, B, F

Q24: There is a mistype of logical equality operator. If this typed true it prints the shoelace word to the screen. This is produce the type mismatch compile error.

Answer is option D

Q25: The compiler assumes every class implicitly imports the java.lang.* package. If the class declaration does not extend another class, then it implicitly extends the java.lang.Object class

Does not contain a packages statement the compiler placed in the default package. Java does not contain import the package if unnecessary.

Answers are B and F

Q26: The given code include two interface definition. It's a normal situation but its not have the same method signature. So this code does not compiled and this is occurs in line m1.

Answer is option D

Q27: The following there is an error in println function. Compiler gives the error because the boolean profit value does not have a initialized value.

Answer is option D

Q28: *Pre-Increment Operator:* ++X "++" sign is written before variable name.Value is incremented first and then incremented new value is used in expressions.

Post Increment : Increment Value of Variable After Assigning
num1++ will increment value inside "num1" variable after assigning old value to itself.

Given variable x x-- decreases the value of x by 1 and returns the original value, while ++x increases the value of x by 1 and returns the new value.

Answer is option A

Q29: In option B, compile give the constructor must be first expression type error.
In option C, compile give the same thing with the option B
In option D, The trouble constructor method defined with the int parameter not the long.
It contains mismatch so this is also give the error.

Answer options B, C, D

Q30: If I run the option a the code snippet throws the cannot make static reference to non-static field max and min. error. Same type error has seen in option B and C. option D is not compiled well. The E and F option compiled successfully.

Answer options E, F

Q31: `booleanExpression ? expression1 : expression2`
Option A- When using a Java ternary construct, only one of the right-hand side expressions i.e. either expression1 or expression2 is evaluated at runtime.

Option B- Switch statement can include with one or more default labels. False

Option C- A single if-then statement can have multiple else statements TRUE

Option D- || and | and && and & are not interchangable

| and & will almost never appear in a conditional expression by themselves
(the point of the link you included is that such things are most often errors)

Answer options C, E

Q32: This code takes the red string and remove the first "r" character with deleteCharAt method. Other delete method is useless. Its valid when use the StringBuffer method.
Answer is option C

Q33: In java method names should start with underscore (_) or dollar sign ($) and a letter. Other signs not allowed (just like %, #, \ ). The method name should not start number and does not conclude dash sign (-). According to this explanations option A and option D are valid representations

Answer options A, D

Q34: Inheritance is a concept of enables the writing the less repeated code this goes the simplicity not complicated. With override same behavior used with different applications. A defined class even does not the inherit the another class, its inherit the object class by default. For accessing data the access modifier takes the role. This is not of inheritance coverage.

Answer options B, C

Q35: Java's key concepts are inheritance polymorphism, abstraction and encapsulation. This language object oriented language and it supports the functional programming.
Answer is option E

Q36: Listing array consist of three couples and each element has two different strings. So it prints the three first and couple length 3-2
Answer is option C

Q37: A switch statement works with the byte, short, char, and int primitive data types. It also works with enumerated types. Then the wrapper class (Characters, Byte, Short, Integer) is also used. It also works with enumerated types. The long type is stay out.
Answer options A, B, E

Q38: This code does not compile because when we use the lambda expressions it used te arrows consist of a dash and bigger than sign. (->) not this(=>)
Answer is option D

Q39: When commenting in code usually used the // sign for single line. Other way is multline comment /* */ **.** Its come write a documentation it becomes **/**** document***/.** Option B, C, E is compiled correctly in my compiler try.
Answer options B, C, E

Q40: Import the things with use with complete class name or use each of the methods and variable names separately.
Answer options A, F

Q41: Arrays.asList returns a fixed size list. This means we cannot add / remove from it. This code throws java.lang.UnsupportedOperationException in runtime
Answer is option D

Q42: The public keyword is used on classes, methods and fields to control access. There is no usage like a local variable. So whatever do you change the values this cannot change the code compillability.
Answer is none of them

Q43: Arrays.sort algorithm sorts the string array. It can sorted as lexical order. 0-01-1-10 is right answer
Answer is option C

Q44: If a method static, then it belongs to the class. As a result, you can use the class's name to call a static method or reference a static field.

Using the public and static modifiers together allows a variable to be accessed from any class, without requiring an instance variable.
Answer is option D

Q45: This code does not compile give the type mismatch error because we have already defined as List type instance. Moreover, I see the change of the type list is redundant.
Answer is option D

Q46: **javac** command reads has the .java extension java source file and turns the bytecode has the .class extension.

java command launch the java bytecode (has the class extenstion) and it runs the output.
Answer options C, D

Q47: parseInt method takes the string and turn them into the integer. The return type should be compatible with the declaration data type. All of types in declared as Integer wrapper class in question and it compatible with integer type. So valid variables are three an four.
Answer is option C

Q48: We were asked for get the return as 3. This is performed by drive method that double and short type parameter. Short, byte and float type returns three.
Answer options B, D, F

Q49: When creating a new object definition, there is new type object in heap background. So two of the objects not equal each other. In these definitions two of them (3 and "bart") returns true.
Answer is option C

Q50: This code throws ClassCastException this exception is a subclass of Runtime Exception. Therefor 2 is printed. Whether catch or not finally statement excuted. So it prints 4. Finally 5 is printed in the main method.
Answer is option D

Q51: This code does not compile. Because unresolved syntax occurs.
Answer is option C

Q52: Main method declaration consist of static void keywords and public access modifier. Integer type and protected modifier no accepted. Option C and D eliminated. The parameter includes the array of string option B is eliminate too. Remaining option A,E and F is valid main method signatures
Answer options A, E, F

Q53: In switch case structure one default type sufficient for switchcase statement. But there is another default section right there. It must be removed. So line 11 can need to remove. Fall has an integer type and but switch case method declared as byte primitive type. There is type mismatch situation right here. Same thing happened in case winter. To sum up line 10, 11 12 should be removed.
Answer options C, D, E

Q54: There is a problem for method visibility the cause of does not compiled. This issues performed at line h1, h2 and h3 files.
Answer options A, B, C

Q55: Unchecked exceptions are subclasses of **RuntimeException**. Some of the unchecked exceptions are ArithmeticException, IllegalArgumentException FileNotFoundException , IO Exception is checked exceptions. And subclasses of Exception is a class name not an exception type.
Answer options B, E, F

Q56: This code execute the ternary expression and assign the 10 to the ship variable. Then evaluating the if-then statements, output is Goodbye and See you again. There is not option about both of the word written.
Answer is option F

Q57: Package sleep and package wake are different packages sot the getTime method should be protected. This means the option C and D is validated. Then public access modifier does not break this situation.
Answer options B, C, D

Q58: This code does not compile because of the CarbonStructure can not defined as abstract method. The compiler shows us. Also diamond class has an problem during the compiling
Answer is option D

Q59: Main method in line 5 does not static it can occur the problem in runtime. LocalDate type is not visible and Date Time Format cannot resolve a type.
Answer is option C

Q60: A try block include the catch block or not. Its optional. And it was finally statement always found in last statement. A try block soes not contain the finally block.
Answer options A, F

Q61: There is an nested ternary expression and basic arithmetic together. For fish control flow solve the arithmetic problem and evaluate the ternary expression. After that fish equals the 4. Mammal enter the nested ternary operations. All of the operation it equals the 9. This code prints the 13.
Answer is option B

Q62: An object can assigned with the inherited interface reference variable without an explicit cast it comes from inheritance concept. This conversion affect the accessing methods and variables.
Answer options A, C, E

Q63: When we use the binary search we ensure the the array is sorted if not there is unstable result we see.
Answer is option F

Q64: Shoe2 shows the show1 and shoe1 show shoe3 The flipflop string become not referenced. This is eligible for garbage collection.
Answer is option B

Q65: The **throws** keyword is used in method declarations, the **finally** keyword is used to guarantee a statement will execute even if an exception is thrown, and the throw keyword is used to **throw** an exception to the surrounding process.
Answer is option B

Q66: When the code execute println command write the Downtown Day, Uptown Night and throws ArrayIndexOutOfBoundsException.
Answer options B, F

Q67: Because of virtual methods, it is possible to override a method, which allows Java to support polymorphism.
Answer is option E

Q68: This code compiled correctly and it returns Fall word.
Answer is option A

Q69: The play method not applicable for int type arguments. The concert method undefined for the MakesNoise. There is not any constructor for class Drum.
Answer is option D

Q70: In this code length is increased six and type Long printed. This code compiled well.
Answer is option B

Q71: This method gives error at three place one of them is main method cannot declare as a static other one is unreachable catch block for CableSnapException duplicate parameter ex is duplicated.
Answer is option C

Q72: Object orientation and encapsulation are two properties that go hand in hand to improve class design by structuring a class with related attributes and actions while protecting the underlying data from access by other classes.
Answer is option D

Q73: This code does not compile because string data type cannot declared with small letter.
Answer is option E

Q74: This code compiles correctly. And it sorted with as flower plant seed looking for the first element at zero index. The result is zero
Answer is option A

Q75: for each loop used int iterated in collections interface like lists. So option A is discarded. Every for each loop can write as a do-while loop or traditional for loop or only while loop.
Answer options B, C, D

Q76: PlusHours and getHour methods does not include in LocalDate class. This code does not compiled.
Answer is option E

Q77: In this code balls and scores variables shows an array but it can broke off the pointed arrays. These two variable candidate for garbage collection.
Answer is option C

Q78: The while loop executed once because the curly braces not added. İt prints one
Answer is option B

Q79: Grunt method inherited from Bear class and cannot visible from the class Bear
Sing method declaration needs the variable declaration.
Grunt method cannot invoke directly from class Bear.
Answer is option D

Q80: Default access modifier means package-private and it does not used the declaration of modifier. Default keyword is used when the none of the cases exceuted control flow continues on default case. Default method also used to add new method to the interface without breaking their exist implementation interface

Answer options B, F