**ASSIGNMENT 1**

Q1. Write briefly:

(a)What do you understand by the term abstraction in object oriented programming?

(b)What is type casting?

(c)What is the utility of continue statement?

(d)What is a final class?

(e)What do you mean by method overloading?

(f)What is the utility of packages in JAVA?

(g)How an error is different from exception?

(h)What is multithreading? Discuss in brief.

(i)What is an applet? Discuss in brief.

Q.2. Create a class Student to represent the students of a class. Include the following members: Data Members: roll number, name of the student, address, branch, marks

Methods: to assign initial values, to display the particulars of a student, to update the marks of a student

Appropriately assume any required information yourself.

Q.3. Write a program which produces alphabetical ordering of strings. For example if the input strings are “WAN”, “LAN” and “MAN” then program should output “LAN”, “MAN” and “WAN” .

Q.4. What is multilevel inheritance? Write a program to demonstrate it.

Q.5. Write a note on inter-thread communication and discuss how it can be accomplished.

Q.6. Explain the life cycle of an Applet.

Q.7. Explain Exception Handling mechanism of Java in detail. Also write a program to demonstrate how a user can create and use his/her own exceptions.

Q.8. Explain the concept of streams in Java and discuss the classification of Java stream classes. Also write a program to copy the content of one text file to another.

Q.9 Design a calculator to perform addition and subtraction using swing component.

**ASSIGNMENT 2:**

Q1. Write briefly:

a. Why Java is platform independent language?

b. Why java does not support multiple inheritance?

c. What is the difference between throw and throws keyword?

d. What is the need of super keyword in java?

e. Define Multithreading.

f. Define Constructor.

g. What is an applet?

2.Write any program to elaborate the concept of exception handling mechanism.

3.Explain differences between final, finally and finalize in Java.

4.What is multithreading? Explain java thread model.

5.Explain the need of packages in java with the help of a program.

6.Explain garbage collector in Java.

7.Explain in detail that makes java the most popular, preferable language over the years.

8.Explain different types of inheritance in detail and how java supports multiple inheritance using any suitable program.

9.Write short notes on Thread synchronization

**ASSIGNMENT 3:**

1. Write briefly:

a. List four important features of Java language.

b. What is JVM?

c. Difference between application and applet

d. Define garbage collection

e. What is use of final keyword?

f. Define Exception

g. What is difference between interface and abstract class

h. What is the use of "this" keyword?

2. Explain what makes Java as platform independent language?

3. Explain Multithreading. How Java implements its Thread model?

4. Write a program to implement the Fibonacci series using for loop control structure.

5. What is string handling? Write a program to compare the two strings in java

6.What is inheritance?.Why java does not support multiple inheritance ?

7.Explain different types of operators used in java programming. Write a simple program to demonstrate operator precedence in java.

8.What is exception handling? How multiple exceptions are caught in a single program? WAP to demonstrate the use of custom exception.

9.Write a short note on

a.Throw Vs Throws

b.Thread Synchronization

c.Recursion

**ASSIGNMENT 4:**

1. Write briefly :
2. List primitive Java types.
3. What is finalize() method?
4. What is Abstract class?
5. Explain the following line used under Java Program :

public static void main (String args[ ])

1. What are Wrapper classes?
2. Describe life cycle of thread.
3. How finally keyword used under Exception Handling?
4. Explain JVM.
5. What is runtime polymorphism or dynamic method dispatch?

2) Write a Program using the concept of Inheritance, to set, to get and compare the features of different Vehicles. Create different methods for each feature.

3) What is function Overloading? Is operator overloading is possible in Java? Write a program to show the concept of Function overloading using inheritance.

4) Explain the terms:

a)Final

b)Super

5) Differentiate between Interface and Abstract Class, with example.

6) Write an interactive program to create a vector object and populate it with names of cities. Program should display and implement following menu choices

Add city: if city name already exists in the vector then programs should display appropriate message.

Remove city: If city does not exists in vector then program should display appropriate message.

Display all: should display contents of vector.

7) How an Applet is created? Describe the Applet Life Cycle. What are the requirements for creating an Applet?

8) What is multithreading? Give two advantages and disadvantages of multi threading.

9) Write a program in java that receive two numeric inputs from user and then perform different arithmetic operations on them.

**ASSIGNMENT 5:**

1.

a) Support the statement “java byte code gives high performance”.

b) Define class and object in java

c) What happens when there is no suitable try block to handle exception?

d) Write a java program to create multiple threads.

e) Discuss about inner classes.

f) Give a note on layouts in AWT.

2. Write a program in JAVA to accept the values of a, b, c and d. Calculate and display ((a x d) + (b x c))/(b x d). Create user defined exception to display proper message when value of (b x d) is ZERO.

3. Write program in Java to convert a string in lower case to uppercase.

4. Write a program in Java to demonstrate operator overriding.

5. Explain the steps in creating a thread using runnable interface.

6. How do we pass parameters to applets in Java? Demonstrate with example.

7. Write a program in Java to find first n prime numbers, where n is any integer and should be taken as input the user.

8. What are different types of Inheritance supported by Java explain in detail?

9. Explain the following with the help of example :

a.Thread scheduling

**ASSIGNMENT 6:**

Q.1

i) How to prevent super class methods from overriding?

ii) What are the advantages of using vector class?

iii) What is thread synchronization and why it is important?

iv) Define an interface.

v) Differentiate between checked and unchecked exception.

vi) Define a two dimensional array. Write a sample code to access it.

vii) What is byte code?

Q.2 Explain with an example method overriding. What is need of method overriding?

Q.3 Write a program to convert string into numeric value using wrapper class.

Q.4 Shape class contains length, height and area functions. Display contains show function. Rectangle class calculates area and prints area by using show function. Relate shape, display with rectangle class. Write a java code to implement above.

Q.5 What is constructor? Give its properties. Write a sample code to overload it.

Q.6 Explain the concept of packages. What are the types of packages? How to add class to a package?

Q.7 Explain thread life cycle. Write a sample code of it.

Q.8 What is a use of throws keyword? How to use it in code.

Q.9 Explain with an example various access protections available in java.

**ASSIGNMENT 7:**

Q.1

i) How to convert string to numbers?

ii) What is JIT compiler?

iii) What is the use of static keyword?

iv) How to achieve multiple inheritances in java?

v) What are the types of packages in java?

vi) What is thread priority?

vii) Draw exception hierarchy.

viii) What is the difference between prepared statement and statement?

Q.2 When you will use menu component? Write a sample code to create menu and submenu.

Q.3 What are commonly used methods in event handling?

Q.4 A class required to handle events on Button. Which listener should it implement? Write sample code.

Q.5 Why swing is called light weight component?

Q. 6 Write any four methods if text field component of swing.

Q.7 Design an applet to calculate factorial of number. Write code.

Q.8 Draw hierarchy and explain readers and writers classes.

Q.9 What are command line arguments in java? Write a program to accept a number from command line and to check whether it is Amstrong Number or Not.

**ASSIGNMENT 8:**

Q.1

a)What is final, finally and finalize in java?

b)What is java virtual machine?

c)What is java API?

d)Which class is a super class of every class? Which package is imported by default in every java program?

e)What are various types of errors in java? Define exception

f)List various methods of thread class

g)Compare and contrast between classes and interfaces in java

Q.2 What are command line arguments in java? Write a java program to demonstrate command line arguments

Q.3 What are various types of inheritance? Write a java program to demonstrate hierarchical inheritance

Q.4 Explain with example various access protections used in java

Q.5 What are various system packages in java. Discuss about the naming conventions and class path setting for package. Write a program to add a class to a package.

Q.6 Write a program to use multiple catch blocks.

Q.7 Draw and explain life cycle of thread

Q.8 Write short note on exception hierarchy in java

Q.9 Write a java program to define a class, describe its constructor, overload the constructor and instantiate its object.

**ASSIGNMENT 9:**

Q.1

a) What is the difference between byte stream and character stream?

b) What is object serialization?

c) Explain how applet differs from an application.

d) What is a layout manager and what are different types of layout managers available in java AWT?

e) What is applet tag and parameter tag?

f) What are various network protocols?

g) Compare and contrast between swing & AWT

Q.2 Write a program to convert string into numeric value using wrapper class

Q.3 Write short note on abstract window Toolkit

Q.4 Write a java program to demonstrate J Label, and J Button class

Q.5 With neat diagram, explain the concept of input stream and output stream

Q.6 Using interactive input, write a program to read three numbers and display the largest number

Q.7 Illustrate in detail the uses of Annotations? Write snippet for the program elements which can be annotated? Is there a way to limit the elements in which an annotation can be applied?

Q.8 Outline the importance of JDK, JRE and JVM? Why Java is called the “Platform Independent Programming Language”?

Q.9 With suitable diagram, explain the life cycle of an applet

**ASSIGNMENT 10:**

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| --- | --- | --- |
| Q.1 |  | |
|  | 1) | What is an abstract class? |
|  | 2) | What are the role of Java compiler and Java Interpreter? |
|  | 3) | What is the purpose of ‘super’ keyword? |
|  | 4) | What do we declare a method or class as ‘final’? |
|  | 5) | What are ‘this’ and ‘super’ keywords. |
|  | 6) | What is synchronization and why is it important? |
|  | 7) | What is JIT [Just-in -Time] compiler? |
|  | 8) | How do we create arrays in Java? |
| Q.2 | With a small program. Explain in detail the steps to write and execute Java program. | |
| Q.3 | Write a Java program to demonstrate constructer overloading. Also explain it. | |
| Q.4 | Write and explain various access protections that can be used with package. | |
| Q.5 | What are various types of errors? Explain exception hierarchy in Java. | |
| Q.6 | Write in Java program to implement the concept of multithreading. | |  |
| Q.7 | Explain five keywords of exception handling mechanism in detail. | |  |
| Q.8 | What are wrapper classes? Write some methods of wrapper classes. | |  |
| Q.9 | Explain with neat diagram, life cycle of thread. | |  |

**ASSIGNEMNT 11:**

1.

a) Support the statement “java byte code gives high performance”.

b) Define class and object in java

c) What happens when there is no suitable try block to handle exception?

d) Write a java program to create multiple threads.

e) Discuss about inner classes.

f) Give a note on layouts in AWT.

2. What are the problems with procedure languages? How object oriented languages overcomes the problems of procedural languages?

3. How to share the data among the functions with the help of static keyword? Give example.

4. Give the naming conventions in java.

5. Write an example program to show the calling sequence of constructors.

6. How to create packages and use them in java?

7.What happen when PrintWriter method receives a string type argument?

8. Write a java program to display all odd numbered files of a text file.

9. Give a brief note on Java Virtual Machine.

10. Develop an example that illustrates how to create and display a label containing both an icon and a string.

**ASSIGNEMNT 12:**

1.

a) Support the statement “java is dynamic”. Discuss.

b) Write java program using ternary operator to find maximum of three numbers.

c) Why to use finally block in java exception handling.

d) List the methods in Thread class.

e) Give a note on volatile modifier.

f) Write a java program that makes a window with a scroll bar at the right side of the window.

2. Define java byte code. Why java generates byte code?

3. Give the characteristics of OOPs in detail.

4. Write and explain the syntax of constructor with example .

5. Explain the conditional instructions in detail.

6. What is an exception? Explain exception handling in java with examples.

7. Discuss about reading console input.

8. Write a java program to implement producer consumer problem.

9. What are the problems with native methods?

10. Discuss about java.awt.event. InputEventclass.

**ASSIGNMENT 13:**

1. a) Write a short note on the installation of JDK.

b) Discuss about binary, unary and ternary operators.

c) Explain about the final keyword with examples.

d) How to suspend threads? Give examples.

e) Differentiate between application and applet

f) How menu’s are created? Give example.

2.What is JVM? Give importance of JVM in java language.

3.What are the principles and applications of java? Discuss.

4.What is package? How to create package? Give examples

5. Write a java program which illustrates the try, catch, throw and throws and finally blocks.

6. Explain about java.io.package

7. Differentiate between thread and process? How a thread is created? Discuss.

8.Write a applet program for login page by considering username and password. If both are correct then only it has to go to the next page. Otherwise it has to display the error invalid user and password.

9. Explain about components in swings.

10. Write a program for Armstrong number using AWT components.