Worksheet 2

Ans. 1 C. Polymorphism

Ans. 2 A. True

Ans. 3 D. None

Ans. 4 C. Inheritance

Ans. 5 A. Encapsulation

Ans. 6 A. double num1, int num2 = 0;

Ans. 7 A. Set

Ans. 8 A. 20

Explanation: Class T is declared above the main class as a non-static class hence an object is declared for the class T as t1 reference and in the print statement the variable t inside T class is accessed and printed.

Ans. 9 A. BINGO

Ans. 10 A. Compilation Error

Explanation: Since variable y is declared inside the curly braces it cannot be accessed outside the braces hence the compiler will give compilation error.

Ans. 11 A. abc

Explanation: A character array is declared and stored the characters a b c. Then a new string object is created and passes the character variable chars inside the string object argument. In the print stated the String s is called which gives the output of the character abc.

Ans. 12 D. Compilation error

Explanation: Since class A is declared as final class it cannot be extended to B class and there is no method display() is been declared in the class B hence the compiler will give compilation error.

Ans. 13 B. 0

Explanation: The compiler output will be 0. Using same method name inside same class is not a good practise. Compiler will only compiler the first method with the same name.

Ans. 14 A. [2,5]

Explanation: In the main class of the program its passing value for end and distance but since the value for end is been already been declared as 4 and the start as 2. So the output will be end-start i.e 4-2 = 2 and the distance will be 5 as its passed from the main class through argument i.e 5. Hence the output will be 2 5.

Ans. 15 C. false true

Explanation: john==jon checks whether both the values are equal and provides a Boolean output as true or false since jon is object it will point to its object class and the values won't match which produces the output as false, equals method check whether the value inside the both the string are equal hence the output will be true since john value is same inside jon too.

Ans. 16 B. Two reference variables and two objects are created.

Explanation: The studentName and studenId creates two reference variable and it creates one object for Student class to studentName reference variable and it creates another object for the Student class to stud_class reference variable.

Ans. 17 **Java program to check even or odd number**

```
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner in = new Scanner(System.in);
    System.out.print("Enter a number: ");
    int num = in.nextInt();
    if (num % 2 == 0)
{
      System.out.println(num + " is even");
    }
```

```
 else {
     System.out.println(num + " is odd");
   }
 }
}
```

Ans. 18. **Write a java program to find average of two numbers**

```
import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner in = new Scanner(System.in);
    System.out.print("Enter first number: ");
    double num1 = in.nextDouble();
    System.out.print("Enter second number: ");
    double num2 = in.nextDouble();
    double average = (num1 + num2) / 2;
    System.out.println("The average of " + num1 + " and " + num2 + " is " + average);
  }
}
```

Ans. 19. **Java program to swap two numbers**

```
import java.util.Scanner;
public class Main {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter first number: ");
```

```
   int num1 = sc.nextInt();
   System.out.print("Enter second number: ");
   int num2 = sc.nextInt();
   System.out.println("Before swapping, num1: " + num1 + " and num2: " + num2);
   int temp = num1;
   num1 = num2;
   num2 = temp;
   System.out.println("After swapping, num1: " + num1 + " and num2: " + num2);
 }
}
```

Ans. 20. **Java program to check whether a number is prime or not**

```
import java.util.Scanner;

public class PrimeChecker {
  public static void main(String[] args) {
     Scanner in = new Scanner(System.in);
     System.out.print("Enter a number: ");
     int n = in.nextInt();
     boolean isPrime = true;

     for (int i = 2; i <= n/2; i++) {
        if (n % i == 0)
{
           isPrime = false;
           break;
        }
     }
```

```
      if (isPrime) {
         System.out.println(n + " is a prime number");
      }
else
 {
         System.out.println(n + " is not a prime number");
      }
  }
}
```

Ans. 21 **Java program to find table of n**

```
import java.util.Scanner;

public class TablePrinter {
  public static void main(String[] args) {
      Scanner in = new Scanner(System.in);
      System.out.print("Enter a number: ");
      int n = in.nextInt();

      for (int i = 1; i <= 10; i++)
{
         System.out.println(n + " * " + i + " = " + n * i);
      }
  }
}
```

Ans. 22 **Java program to find the largest of three numbers**

```
import java.util.Scanner;

public class LargestNumber {
  public static void main(String[] args) {
    Scanner in = new Scanner(System.in);
    System.out.print("Enter the first number: ");
    int num1 = in.nextInt();
    System.out.print("Enter the second number: ");
    int num2 = in.nextInt();
    System.out.print("Enter the third number: ");
    int num3 = in.nextInt();
    int largest = num1;
    if (num2 > largest) {
      largest = num2;
    }
    if (num3 > largest) {
      largest = num3;
    }
    System.out.println("The largest number is: " + largest);
  }
}
```

Ans. 23 **Java program to find simple interest**

```
import java.util.Scanner;

public class SimpleInterest {
  public static void main(String[] args) {
    Scanner in = new Scanner(System.in);
```

```
    System.out.print("Enter the Principal amount: ");
    double principal = in.nextDouble();

    System.out.print("Enter the Rate of interest: ");
    double rate = in.nextDouble();

    System.out.print("Enter the Time period in years: ");
    double time = in.nextDouble();

    double simpleInterest = (principal * rate * time) / 100;

    System.out.println("Simple Interest: " + simpleInterest);
  }
}
```

Ans. 24 **Java program to calculate the area and perimeter of Rectangle**

```
import java.util.Scanner;

public class Rectangle {
  public static void main(String[] args) {
    Scanner in = new Scanner(System.in);

    System.out.print("Enter the width of the Rectangle: ");
    double width = in.nextDouble();

    System.out.print("Enter the height of the Rectangle: ");
    double height = in.nextDouble();
```

```
    double area = width * height;
    double perimeter = 2 * (width + height);

    System.out.println("Area of the Rectangle: " + area);
    System.out.println("Perimeter of the Rectangle: " + perimeter);
  }
}
```

Ans. 25 **Java program to check if a character is vowel or consonant**

```
import java.util.Scanner;

public class VowelOrConsonant {
  public static void main(String[] args) {
    Scanner in = new Scanner(System.in);

    System.out.print("Enter a character: ");
    char ch = in.next().charAt(0);

    if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u'
        || ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U')
 {
      System.out.println(ch + " is a vowel.");
    }
else
 {
      System.out.println(ch + " is a consonant.");
    }
```

```
    }
}
```