Coding Questions on Data Types:

1. Write a Java program to declare and initialize all eight primitive data types and print their values.

Program:

public class Main {

public static void main(String[] args) {

byte b = 10;

short s = 20;

int i = 30;

long l = 40L;

float f = 50.5f;

double d = 60.5;

char c = 'A';

boolean bool = true;

System.out.println("Byte: " + b);

System.out.println("Short: " + s);

System.out.println("Int: " + i);

System.out.println("Long: " + l);

System.out.println("Float: " + f);

System.out.println("Double: " + d);

System.out.println("Char: " + c);

System.out.println("Boolean: " + bool);

}

}

1. Write a Java program that takes two integers as input and performs all arithmetic operations on them.

Program:

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 a = sc.nextInt();

System.out.print("Enter second number: ");

int b = sc.nextInt();

System.out.println("Sum: " + (a + b));

System.out.println("Difference: " + (a - b));

System.out.println("Product: " + (a \* b));

System.out.println("Quotient: " + (a / b));

System.out.println("Remainder: " + (a % b));

}

}

1. Implement a Java program to demonstrate implicit and explicit type casting.

Program:

public class Main {

public static void main(String[] args) {

int a = 100;

double b = a; // Implicit casting

System.out.println("Implicit Casting: " + b);

double c = 100.5;

int d = (int) c; // Explicit casting

System.out.println("Explicit Casting: " + d);

}

}

1. Create a Java program that converts a given integer to a double and vice versa using wrapper classes.

Ans: public class Main {

public static void main(String[] args) {

int i = 10;

double d = (double) i;

Integer intObj = Integer.valueOf(i);

Double doubleObj = Double.valueOf(d);

System.out.println("Integer to Double: " + d);

System.out.println("Double to Integer: " + intObj);

}

}

1. Write a Java program to swap two numbers using a temporary variable and without using temporary variable.

Program:

public class Main {

public static void main(String[] args) {

int x = 5, y = 10;

// Using temporary variable

int temp = x;

x = y;

y = temp;

System.out.println("After swapping with temp: x = " + x + ", y = " + y);

// Without using temporary variable

x = 5;

y = 10;

x = x + y;

y = x - y;

x = x - y;

System.out.println("After swapping without temp: x = " + x + ", y = " + y);

}

}

1. Develop a program that takes user input for a character and prints whether it is a vowel or consonant.

Program:

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter a character: ");

char ch = sc.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.");

}

}

}

1. Create a Java program to check whether a given number is even or odd using command-line arguments.

Program:

import java.util.Scanner;  
  
public class Main {  
 public static void main(String[] args) {  
 Scanner sc= new Scanner(System.*in*);  
 int num = sc.nextInt();  
  
 if (num % 2 == 0) {  
 System.*out*.println(num + " is even.");  
 } else {  
 System.*out*.println(num + " is odd.");  
 }  
 }  
}