

**ICSE COMPUTER APPLICATION**  
**CLASS IX**  
**SOLVED PROGRAMS**  
**CHAPTER-INPUT**

**Program 1. A shopkeeper offers 30% discount on purchasing articles whereas the other shopkeeper offers two successive discounts 20% and 10% for purchasing the same articles. Write a program in Java to compute and display the discounts.**

**Take the price of an article as the input.**

```
import java.util.*;
```

```
public class Discount
```

```
{
```

```
public static void main(String args[]) {
```

```
Scanner in = new Scanner(System.in);
```

```
System.out.print("Enter price ");
```

```
double price = in.nextDouble();
```

```
double d1 = price * 30 / 100.0;
```

```
double amt1 = price - d1;
```

```
System.out.println("30% discount = " + d1);
```

```
System.out.println("Amount after 30% discount = " + amt1);
```

```
double d2 = price * 20 / 100.0;
```

```
double amt2 = price - d2;
```

```
double d3 = amt2 * 10 / 100.0;
```

```
amt2 = amt2 - d3;
```

```
System.out.println("20% discount = " + d2);
```

```
System.out.println("10% discount = " + d3);
```

```
System.out.println("Amount after successive discounts = " + amt2);
```

```
}
```

```
}
```

**Program2. A shopkeeper offers 10% discount on the printed price of a Digital Camera. However, a customer has to pay 6% GST on the remaining amount. Write a program in Java to calculate the amount to be paid by the customer taking printed price as an input.**

```
import java.util.*;

public class CameraPrice
{
public static void main(String args[]) {
Scanner in = new Scanner(System.in);
System.out.println("Enter printed price of Digital Camera:");
double mrp = in.nextDouble();
double dis = mrp * 10 / 100.0;
double price = mrp - dis;
double gst = price * 6 / 100.0;
price = price+gst;
System.out.println("Amount to be pai= " + price);
}
}
```

**Program 3. The time period of a Simple Pendulum is given by the formula:**

$$T = 2\pi\sqrt{l/g}$$

**Write a program to calculate the time period of a Simple Pendulum by taking length and acceleration due to gravity (g) as inputs.**

```
import java.util.*;
public class Pendulum_scan
{
public static void main(String args[]) {
Scanner in = new Scanner(System.in);
System.out.print("Enter length: ");
double l = in.nextDouble();
System.out.print("Enter g ");
double g = in.nextDouble();
double t = 2 * (22.0 / 7.0) * Math.sqrt(l/g);
System.out.println("T = " + t);    }}
```

**Program 4. Write a program by using class 'Employee' to accept Basic Pay of an employee.**

**Calculate the allowances/deductions as given below.**

<b>Allowance / Deduction</b>	<b>Rate</b>
<b>Dearness Allowance (DA)</b>	<b>30% of Basic Pay</b>
<b>House Rent Allowance (HRA)</b>	<b>15% of Basic Pay</b>
<b>Provident Fund (PF)</b>	<b>12.5% of Basic Pay</b>

**Finally, find and print the Gross and Net pay.**

**Gross Pay = Basic Pay + Dearness Allowance + House Rent Allowance**

**Net Pay = Gross Pay - Provident Fund**

```
import java.util.*;
```

```
public class Employee
{

public static void main(String arg[]) {
Scanner in = new Scanner(System.in);
System.out.print("Enter Basic Pay: ");
double bp = in.nextDouble();
double da = 0.3 * bp;
double hra = 0.15 * bp;
double pf = 0.125 * bp;
double gp = bp + da + hra;
double np = gp - pf;
System.out.println("Gross Pay = " + gp);
System.out.println("Net Pay = " + np);
}}
```

**Program 5. Mr. Agarwal invests certain sum at 5% per annum compound interest for three years. Write a program in Java to calculate:**

- (a) the interest for the first year**
- (b) the interest for the second year**
- (c) the amount after three years.**

**Take sum as an input from the user.**

**Sample Input: Principal = Rs.5000, Rate =10%, Time = 3 yrs**

**Sample Output: Interest for the first year: Rs.500**

**Interest for the second year: Rs.550**

**Interest for the third year: Rs.605**

```
import java.util.*;
public class Compound_Interest{
public static void main(String args[]) {
Scanner in = new Scanner(System.in);
System.out.print("Enter sum of money: ");
double p = in.nextDouble();
double interest = p * 5 * 1 / 100.0;
System.out.println("Interest for the first year = " + interest);
p =p+ interest;
interest = p * 5 * 1 / 100.0;
System.out.println("Interest for the second year = " + interest);
p =p+ interest;
interest = p * 5 * 1 / 100.0;
System.out.println("Interest for the third year = " + interest);
}
}
```

**Program 6. A businessman wishes to accumulate 3000 shares of a company. However, he already has some shares of that company valuing ₹10 (nominal value) which yield 10% dividend per annum and receive ₹2000 as dividend at the end of the year. Write a program in Java to calculate the number of shares he has and how many more shares to be purchased to make his target.**

**Hint: No. of share = (Annual dividend \* 100) / (Nominal value \* div %)**

```

public class Shares_Divident
{
public static void main(String args[]) {
int s_held = (2000 * 100)/(10 * 10);
System.out.println("No. of shares held currently = " + s_held);
int s_required = 3000 - s_held;
System.out.println("No. of shares to purchase = " + s_required);
}
}

```

**Program 7. Write a program to input the time in seconds. Display the time after converting them into hours, minutes and seconds.**

**Sample Input: Time in seconds 5420**

**Sample Output: 1 Hour 30 Minutes 20 Seconds**

```

public class Second
{
public static void main(int sec) {

long hrs = sec / 3600;
sec =sec% 3600;
long mins = sec / 60;
sec =sec% 60;
System.out.println(hrs + " Hours " + mins + " Minutes " + sec + " Seconds");
}}

```

**Program 8. A shopkeeper sells two calculators for the same price. He earns 20% profit on one and suffers a loss of 20% on the other. Write a program to find his total cost price of the calculators by taking selling price as input.**

**Hint: CP = (SP / (1 + (profit / 100))) (when profit)**

**CP = (SP / (1 - (loss / 100))) (when loss)**

```

import java.util.*;

public class Shop
{
public static void main(String args[]) {
Scanner in = new Scanner(System.in);
System.out.print("Enter the selling price: ");
double sp = in.nextDouble();
double cp1 = (sp / (1 + (20 / 100.0)));
double cp2 = (sp / (1 - (20 / 100.0)));
double total_cp = cp1 + cp2;
System.out.println("Total Cost Price = " + total_cp);
}
}

```

**Program 9. A certain amount is invested at the rate 10% per annum for 3 years.**

**Find the difference between Compound Interest (CI) and Simple Interest (SI).**

**Write a program to take amount as an input.**

**Hint:  $SI = (P * R * T) / 100$**

**$A = P * (1 + (R/100))^T$**

**$CI = A - P$**

```

import java.util.*;
public class SI_CI
{
public static void main(String args[])
{
Scanner in = new Scanner(System.in);
System.out.print("Enter Amount: ");
double p = in.nextDouble();
double si = p * 10 * 3 / 100;
double ciAmt = p * Math.pow(1 + (10/100.0), 3);
System.out.print("Difference between CI & SI: " + ciAmt);
double ci = ciAmt - p;
System.out.print("Difference between CI & SI: " + (ci - si));
}
}

```

```
}  
}
```

**Program 10. Write a program to input two unequal numbers. Display the numbers after swapping their values in the variables without using a third variable.**

**Sample Input: a = 23, b = 56**

**Sample Output: a = 56, b = 23**

```
class Swap  
{  
public static void main(String args[])  
{  
int a=23,b=56;  
a =a+ b;  
b = a - b;  
a =a- b;  
System.out.println("a = " + a + ", b = " + b);  
}  
}
```

**Program 11. Write a program to input two unequal numbers. Display the numbers after swapping their values in the variables using a third variable.**

**Sample Input: a = 23, b = 56**

**Sample Output: a = 56, b = 23**

```
class Swap1  
{  
public static void main(String args[])  
{  
int a=23,b=56,t=0;  
t=a;  
a=b;  
b=t;  
System.out.println("a = " + a + ", b = " + b);  
}  
}
```