Ans. 1.

```java
import java.util.Scanner;
abstract class Shape {
    int a;
    int b;
    abstract void printArea();
}

class rectangle extends Shape {
    Scanner sc = new Scanner(System.in);
    void printArea() {
        System.out.println("length of rectangle :");
        a = sc.nextInt();
        System.out.println("Breadth of rectangle :");
        b = sc.nextInt();
        System.out.println("Area :" + a*b);
    }
}

class triangle extends Shape {
    Scanner sc = new Scanner(System.in);
    void printArea() {
        System.out.println("Enter the base of triangle :");
        a = sc.nextInt();
        System.out.println("Enter the height of triangle:");
        b = sc.nextInt();
        System.out.println("Area :" + (a*b)/2);
    }
}

class circle extends Shape {
    double res;
```

```java
Scanner sc = new Scanner (System.in);
void printArea() {
    System.out.println(" Enter the radius of circle:");
    a = sc.nextInt();
    res = (double) 3.14 * (a * a);
    System.out.println("Area :" + res);
}
}

class Testj {
    public static void main (String args[]) {
        rectangle r = new rectangle();
        triangle t = new triangle();
        circle c = new circle();
        r.printArea();
        t.printArea();
        c.printArea();
    }
}
```

```java
Ans 2.    import java.util.Scanner;
          abstract class Account {
          String cust_name;
          String acc_no;
          String acc_type;
          double balance;
          double min_balance = 500.0;
          Account (String cust_name, String acc_no, String acc_type,
                              double balance) {
              string. cust_name = cust_name;
              string. acc_no = acc_no;
              this. acc_type = acc_type;
              this. balance = balance;
          }

              abstract void deposit (double amount);
              abstract void display ();
              abstract void withdrawal (double amount);
          }

          class curr_acct extends Account {
          double penalty = 50.0;
          curr_acct(String cust_name, String acc_type, double
                              balance )
          {
              super(cust_name, acc_no, acc_type, balance);
              System.out.println(" Name of customer : " + cust_name);
              System.out.println (" Account Number : acc_no);
              System.out.println (" Account type : " + acc_type);
              System.out.println (" Balance : "+ balance);
          }

              void deposit ( double amount) {
                       this. balance += amount;
              }
```

```java
void withdrawal (double amount) {
    this.balance -= amount;
    if (this.balance < min-bal)
        imposepenalty();
    System.out.println ("The current Balance: " + balance);
}

void imposepenalty() {
    {
        this.balance = this.balance - penalty;
        System.out.println ("The current balance is
        insufficient, penalty - 100 Rs");
    }
}

void display()
{
    System.out.println()
    {
        System.out.println (" Balance is: " + this.balance);
    }
}

class sav_acct extends Account {
    sav_acct (String cust_name, String acc_no, String acc_type,
                double balance) {
        super (cust_name, acc_no, acc_type, balance);
        System.out.println (" Name of customer: " + cust_name);
        System.out.println (" Account Number: " + acc_no);
        System.out.println (" Account type: " + acc_type);
        System.out.println (" Balance: " + balance);
    }

    void deposit (double amount) {
        this.balance = this.balance + amount;
        System.out.println ("UPDATED balance: " + this.balance);
    }
}
```

```java
}
void interest() {
    int rate = 10 time = 1;
    float ci = (float) (this.balance * math.pow(1 + rate/100.0, time)
                        - this.balance);
    System.out.println("The interest amount added to balance is " + ci);
    this.balance = this.balance + ci;
    System.out.println("UPDATED BALANCE :" + this.balance);
}

void withdrawal (double amount)
{
    this.balance = this.balance - amount;
    System.out.println("UPDATED BALANCE :" + this.balance);
}

void display() {
    System.out.println("Balance :" + this.balance);
}

}

class Testj {
    public static void main (String args[]) {
        Scanner sc = new Scanner (System.in);
        double amount;
        int flag = 0;
        while (flag == 0) {
        System.out.println("Enter type of Account:\n1:
        current account \n2: Savings account \n3: Exit ");
        int choice = sc.nextInt();
        switch (choice) {
        case 1: System.out.println("In Current Acct \n");
        System.out.print("Name: ");
        String uname1 = sc.next();
```

```java
System.out.println ("Acct. No : ");
String a_no1 = sc.next();
System.out.println ("Enter the balance amount");
double balance_am1 = sc.nextDouble();
Curr_act c = new Curr_acct (name1, a_no1, "current",
                            balance_am1);

int flag = 0;
while (flag!(==0))
{
System.out.println (" Enter your Choice In1 Deposit Amount In2.
Display balance In3. Withdraw In4.Exit");
int choice1 = sc.nextInt();
switch (choice1)
{
    case1: System.out.println (" Enter amount to be
              deposited:");
    amount = sc.nextDouble();
    c.deposit (amount);
        break;
    case 2:
        c.display();
        break;
    case 3:
        System.out.println (" Enter amount you want to
        withdraw :");
        amount = sc.nextDouble();
        c.withdrawal (amount);
        break;
    default:
        flag! =1;
}
}
break;
```

```java
case 2:
System.out.println("\n Savings Acc \n");
System.out.println("Name: ");
String name 2 = sc.next();
System.out.println("Acc. No.: ");
String a-no 2 = sc.next();
System.out.println("Enter the Balance Amount");
double balance_am2 = sc.nextDouble();
Sav acct s = new Sav_acct(name2, a_no2, "Savings",
                balance_am2);
int flag2 = 0;
while(flag2 == 0)
{
System.out.println("Enter your Choice \n1. Deposit \n2. Display
    Balance \n3. Withdraw \n4. Exit");
int choice2 = sc.nextInt();
switch(choice2)
{
    case 1: System.out.println("Amount to be deposited:");
            amount = sc.nextDouble();
            s.deposit(amount);
            break;
    case 2: s.display()
            s.interest()
            break;
    case 3: System.out.println("Enter amount to
                    withdraw:");
            amount = sc.nextDouble();
            s.withdrawal(amount);
            break;
    default: flag2 = 1;
```

}

}

        break;

        default :   flag = 1;

}

}

}

}