

# Java Programming(CSE1007)

## Lab Exercise 1

-Aishwarya S 19BCE1709

### 1. AGE OF Mr. X.

CODE:

```
import java.util.*;

class lab1

{

public static void main(String[] args)

{

Scanner s= new Scanner(System.in);    //System.in is a standard input stream

System.out.print("Aishwarya S 91BCE1709\nQuestio no 1\n");

System.out.print("Enter birth year: ");

int a= s.nextInt();

System.out.print("Enter the year for which age is to be calculated: ");

int cu=s.nextInt();

int age=cu-a;

System.out.print("Enter the year for which no of birthdays is to be
calculated: ");

int cur=s.nextInt();

int z=(cur-a)/4-(cur-a)/100+ (cur-a)/400;

System.out.println("Age of Mr. X in the year " +cu + " is " + age+"\nTotal
no of birthdays celebrated by Mr. X by the year " +cur + " is " +z+"\n");

}

}
```

RESULT:

```
Desktop — -bash — 80x24
((base) Athena:Desktop carbon$ javac lab1.java
((base) Athena:Desktop carbon$ java lab1
Aishwarya S 91BCE1709
Question no 1
Enter birth year: 1960
Enter the year for which age is to be calculated: 2100
Enter the year for which no of birthdays is to be calculated: 2101
Age of Mr. X in the year 2100 is 140
Total no of birthdays celebrated by Mr. X by the year 2101 is 34
(base) Athena:Desktop carbon$
```

## 2. SACHIN'S GRADES

CODE:

```
import java.util.*;

class lab2

{

public static void main(String[] args)

{   double avg=0;

    System.out.print("Aishwarya S 19BCE1709\nQuestion no 2\n");

        String[] subs={"Maths","English","Hindi","Science","Social Science"};

    Scanner s= new Scanner(System.in);

    for(int i=0;i<5;i++)

    {   System.out.print("Enter marks for "+subs[i]+": ");

        int a= s.nextInt();

        if(a>100 && a<0)

        { System.out.print("Invalid mark"+"\n");

            i=i-1;

        }

        else

        {
```

```
        avg=avg+a;

    }

}

System.out.print("Total Marks: "+avg+"\n");

avg=avg/5;

System.out.print("Overall Percentage: "+avg+"\n");

if(avg>=90)

{ System.out.print("Grade: S"); }

else if(avg<=89 && avg>=80)

    System.out.print("Grade: A");

else if(avg<=79 && avg>=70)

    System.out.print("Grade: B");

else if(avg<=69 && avg>=60)

    System.out.print("Grade: C");

else if(avg<=59 && avg>=50)

    System.out.print("Grade: D");

else

    System.out.print("Fail");

    System.out.print("\n");

}

}
```

## RESULT:

```
Desktop — -bash — 80x24
((base) Athena:Desktop carbon$ javac lab2.java
((base) Athena:Desktop carbon$ java lab2
Aishwarya S 19BCE1709
Question no 2
Enter marks for Maths: 90
Enter marks for English: 85
Enter marks for Hindi: 89
Enter marks for Science: 90
Enter marks for Social Science: 88
Total Marks: 442.0
Overall Percentage: 88.4
Grade: A
((base) Athena:Desktop carbon$
```

## 3. TOWN POPULATION

### CODE:

```
import java.util.*;

import java.lang.*;

class lab3

{

    public static void main(String[] args)

    {

        Scanner s= new Scanner(System.in);

        System.out.print("Aishwarya S 91BCE1709\nQuestion no 3\n");

        System.out.print("Enter the current population: ");

        double a= s.nextDouble();

        System.out.print("Enter the current year: ");

        int y= s.nextInt();

        while(a<=30000)

        { System.out.print("Population for the year "+ y+": " +a+"\n");

            a=Math.floor(a+a*0.1d);

            y=y+1;

        }
```

```

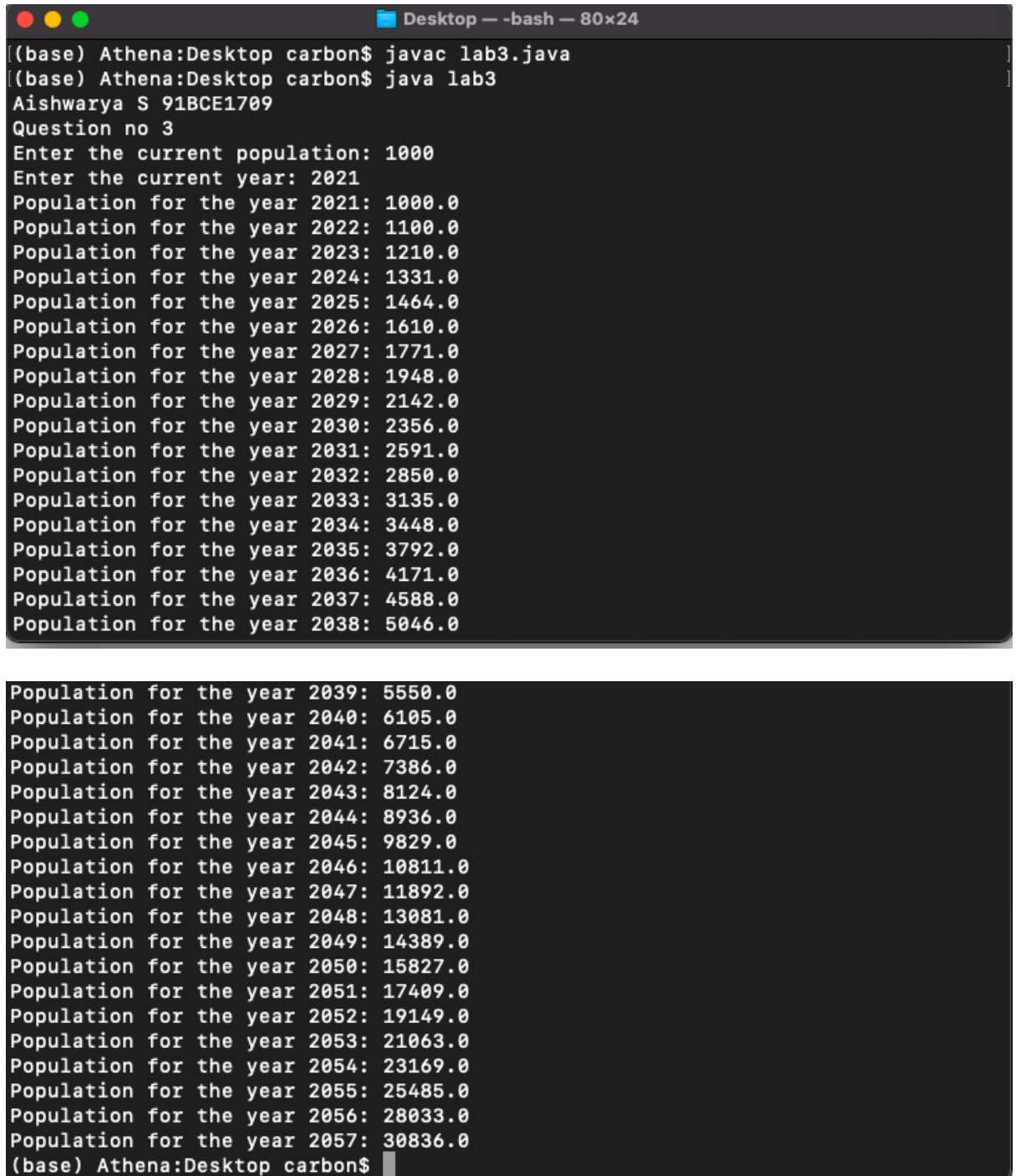
System.out.print("Population for the year "+ y+": " +a+"\n");

}

}

```

## RESULT:



```

Desktop — -bash — 80x24
[(base) Athena:Desktop carbon$ javac lab3.java
[(base) Athena:Desktop carbon$ java lab3
Aishwarya S 91BCE1709
Question no 3
Enter the current population: 1000
Enter the current year: 2021
Population for the year 2021: 1000.0
Population for the year 2022: 1100.0
Population for the year 2023: 1210.0
Population for the year 2024: 1331.0
Population for the year 2025: 1464.0
Population for the year 2026: 1610.0
Population for the year 2027: 1771.0
Population for the year 2028: 1948.0
Population for the year 2029: 2142.0
Population for the year 2030: 2356.0
Population for the year 2031: 2591.0
Population for the year 2032: 2850.0
Population for the year 2033: 3135.0
Population for the year 2034: 3448.0
Population for the year 2035: 3792.0
Population for the year 2036: 4171.0
Population for the year 2037: 4588.0
Population for the year 2038: 5046.0
Population for the year 2039: 5550.0
Population for the year 2040: 6105.0
Population for the year 2041: 6715.0
Population for the year 2042: 7386.0
Population for the year 2043: 8124.0
Population for the year 2044: 8936.0
Population for the year 2045: 9829.0
Population for the year 2046: 10811.0
Population for the year 2047: 11892.0
Population for the year 2048: 13081.0
Population for the year 2049: 14389.0
Population for the year 2050: 15827.0
Population for the year 2051: 17409.0
Population for the year 2052: 19149.0
Population for the year 2053: 21063.0
Population for the year 2054: 23169.0
Population for the year 2055: 25485.0
Population for the year 2056: 28033.0
Population for the year 2057: 30836.0
(base) Athena:Desktop carbon$

```

## 4. ADDITION

CODE:

```
import java.util.*;

import java.lang.*;

class lab4

{

public static void main(String[] args)

{   double sum=0;


Scanner s= new Scanner(System.in);    //System.in is a standard input stream

System.out.print("Aishwarya S 91BCE1709\nQuestion no 4\n");

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

double a= s.nextDouble();

System.out.print("Enter the number of digits in the biggest number: ");

int n =s.nextInt();

System.out.print("The sum of ");

for(int i=1;i<=n;i++)

{   for(int j=0;j<i;j++)

    {   System.out.print((int)a);

    }

    if(i!=n)

    {System.out.print("+");}


    sum=sum+(a*(Math.pow(10,(n-i)))*i);

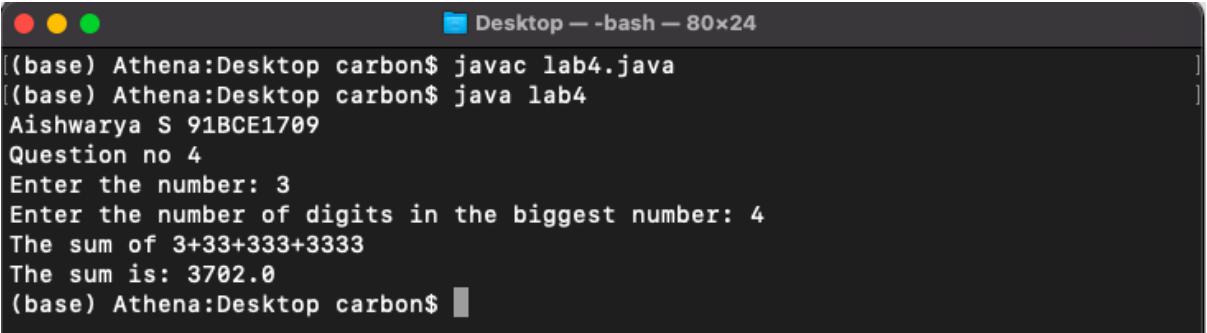
}

System.out.print("\n"+ "The sum is: " + sum+"\n");

}

}
```

RESULT:

A screenshot of a terminal window titled "Desktop — -bash — 80x24". The terminal shows the execution of a Java program. The user enters "javac lab4.java" and "java lab4". The program outputs "Aishwarya S 91BCE1709", "Question no 4", "Enter the number: 3", "Enter the number of digits in the biggest number: 4", "The sum of 3+33+333+3333", and "The sum is: 3702.0". The prompt "(base) Athena:Desktop carbon\$" is visible at the end of each line.

```
(base) Athena:Desktop carbon$ javac lab4.java
(base) Athena:Desktop carbon$ java lab4
Aishwarya S 91BCE1709
Question no 4
Enter the number: 3
Enter the number of digits in the biggest number: 4
The sum of 3+33+333+3333
The sum is: 3702.0
(base) Athena:Desktop carbon$
```

## 5. BMI

CODE:

```
import java.util.*;

import java.lang.*;

class lab5

{

public static void main(String[] args)

{   System.out.print("Aishwarya S 91BCE1709"+"\\n"+"Question no 5\\n");

    Formatter form= new Formatter();

Scanner s= new Scanner(System.in);

System.out.print("Enter the height in metres: ");

double h =s.nextDouble();

System.out.print("Enter the weight in kilograms: ");

double w =s.nextDouble();

double bmi=(w)/Math.pow(h,2);

form.format("%.2f", bmi);

System.out.print("BMI is "+ form +"\\n");

if(bmi<18.5)

System.out.print("Underweight");

else if(bmi>=18.5 && bmi<25)

System.out.print("Normal Weight");
```

```
else if(bmi>=25 && bmi<30)

System.out.print("Overweight");

else

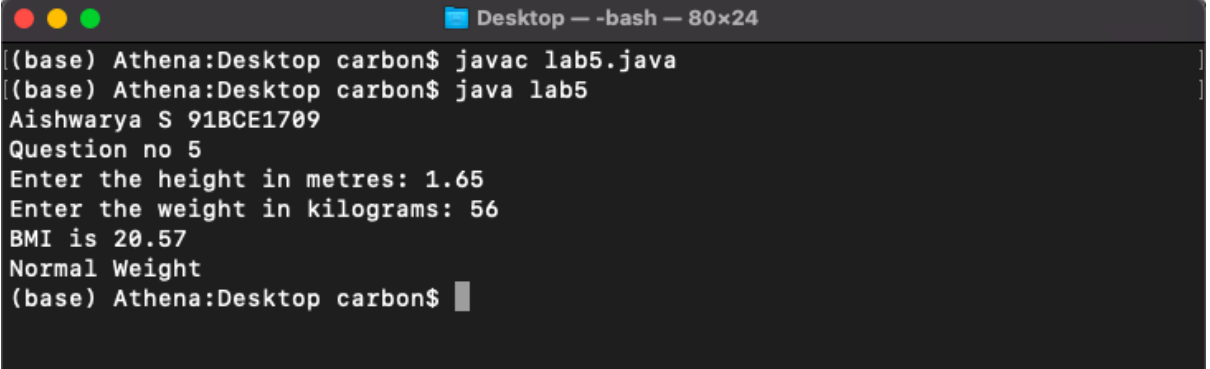
System.out.print("Obese");

System.out.print("\n");

}

}
```

RESULT:

A screenshot of a terminal window titled "Desktop — -bash — 80x24". The terminal shows the execution of a Java program. The user enters the command "javac lab5.java" and then "java lab5". The program outputs "Aishwarya S 91BCE1709", "Question no 5", "Enter the height in metres: 1.65", "Enter the weight in kilograms: 56", "BMI is 20.57", and "Normal Weight". The prompt "(base) Athena:Desktop carbon\$" is visible at the end of the output.

```
((base) Athena:Desktop carbon$ javac lab5.java
((base) Athena:Desktop carbon$ java lab5
Aishwarya S 91BCE1709
Question no 5
Enter the height in metres: 1.65
Enter the weight in kilograms: 56
BMI is 20.57
Normal Weight
(base) Athena:Desktop carbon$
```