Assignment No:-9

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1. Write a Java program to find the sum of digits of numbers from 100 to 200 using nested loops (all three loop).

```
import java.util.*;
public class SumoOfNDigitNumber
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter First number:");
		int a=sc.nextInt();
		System.out.println("Enter Second number:");
		int b = sc.nextInt();
		System.out.println("sum of n digit number between "+a+" To "+b+" using foor loop is:");
		for(int i=a;i<=b;i++)
		{
			int rem=0,temp=i,sum=0;
			for(;temp!=0;)
			{
				rem=temp%10;
				sum+=rem;
				temp=temp/10;
			}
				System.out.print(i+" = "+sum+" ,");
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int n =sc.nextInt();
		System.out.println("Enter Second number:");
		int n1 = sc.nextInt();
		System.out.println("sum of n digit number between "+n+" To "+n1+" using while loop is:");
		int j=n;
		while(j<=n1)
		{
			int rem1=0,temp1=j,sum1=0;
			while(temp1!=0)
			{
				rem1=temp1%10;
				sum1+=rem1;
				temp1=temp1/10;
			}
				System.out.print(j+" = "+sum1+" , ");
		j++;
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int m =sc.nextInt();
		System.out.println("Enter Second number:");
		int m1 = sc.nextInt();
		System.out.println("sum of n digit number between "+m+" To "+m1+" using do while loop is:");
		int k=m;
		do
		{
			int rem2=0,temp2=k,sum2=0;
			do
			{
				rem2=temp2%10;
				sum2+=rem2;
				temp2=temp2/10;
			}while(temp2!=0);
				System.out.print(k+" = "+sum2+" , ");
		k++;
		}while(k<=m1);
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Practice_java_Codenera>javac SumOfNDigitNumber.java

C:\Users\Shree\Desktop\Practice_java_Codenera>java SumOfNDigitNumber
Enter First number:
100
Enter Second number:
200
sum of n digit number between 100 To 200 using foor loop is:
100 = 1 ,101 = 2 ,102 = 3 ,103 = 4 ,104 = 5 ,105 = 6 ,106 = 7 ,107 = 8 ,108 = 9 ,109 = 10 ,110 = 2 ,111 = 3 ,112 = 4 ,113 = 5 ,114 = 6 ,115 = 7 ,116 = 8 ,117 = 9 ,118 = 10 ,119 = 11 ,120 = 3 ,121 =
 4 ,122 = 5 ,123 = 6 ,124 = 7 ,125 = 8 ,126 = 9 ,127 = 10 ,128 = 11 ,129 = 12 ,130 = 4 ,131 = 5 ,132 = 6 ,133 = 7 ,134 = 8 ,135 = 9 ,136 = 10 ,137 = 11 ,138 = 12 ,139 = 13 ,140 = 5 ,141 = 6 ,142 =
7 ,143 = 8 ,144 = 9 ,145 = 10 ,146 = 11 ,147 = 12 ,148 = 13 ,149 = 14 ,150 = 6 ,151 = 7 ,152 = 8 ,153 = 9 ,154 = 10 ,155 = 11 ,156 = 12 ,157 = 13 ,158 = 14 ,159 = 15 ,160 = 7 ,161 = 8 ,162 = 9 ,163
 = 10 ,164 = 11 ,165 = 12 ,166 = 13 ,167 = 14 ,168 = 15 ,169 = 16 ,170 = 8 ,171 = 9 ,172 = 10 ,173 = 11 ,174 = 12 ,175 = 13 ,176 = 14 ,177 = 15 ,178 = 16 ,179 = 17 ,180 = 9 ,181 = 10 ,182 = 11 ,183
 = 12 ,184 = 13 ,185 = 14 ,186 = 15 ,187 = 16 ,188 = 17 ,189 = 18 ,190 = 10 ,191 = 11 ,192 = 12 ,193 = 13 ,194 = 14 ,195 = 15 ,196 = 16 ,197 = 17 ,198 = 18 ,199 = 19 ,200 = 2 ,
---------------------------------------------------------------------------------------------------------------
Enter First number:
100
Enter Second number:
200
sum of n digit number between 100 To 200 using while loop is:
100 = 1 , 101 = 2 , 102 = 3 , 103 = 4 , 104 = 5 , 105 = 6 , 106 = 7 , 107 = 8 , 108 = 9 , 109 = 10 , 110 = 2 , 111 = 3 , 112 = 4 , 113 = 5 , 114 = 6 , 115 = 7 , 116 = 8 , 117 = 9 , 118 = 10 , 119 =
 11 , 120 = 3 , 121 = 4 , 122 = 5 , 123 = 6 , 124 = 7 , 125 = 8 , 126 = 9 , 127 = 10 , 128 = 11 , 129 = 12 , 130 = 4 , 131 = 5 , 132 = 6 , 133 = 7 , 134 = 8 , 135 = 9 , 136 = 10 , 137 = 11 , 138 =
12 , 139 = 13 , 140 = 5 , 141 = 6 , 142 = 7 , 143 = 8 , 144 = 9 , 145 = 10 , 146 = 11 , 147 = 12 , 148 = 13 , 149 = 14 , 150 = 6 , 151 = 7 , 152 = 8 , 153 = 9 , 154 = 10 , 155 = 11 , 156 = 12 , 157
 = 13 , 158 = 14 , 159 = 15 , 160 = 7 , 161 = 8 , 162 = 9 , 163 = 10 , 164 = 11 , 165 = 12 , 166 = 13 , 167 = 14 , 168 = 15 , 169 = 16 , 170 = 8 , 171 = 9 , 172 = 10 , 173 = 11 , 174 = 12 , 175 = 1
3 , 176 = 14 , 177 = 15 , 178 = 16 , 179 = 17 , 180 = 9 , 181 = 10 , 182 = 11 , 183 = 12 , 184 = 13 , 185 = 14 , 186 = 15 , 187 = 16 , 188 = 17 , 189 = 18 , 190 = 10 , 191 = 11 , 192 = 12 , 193 = 1
3 , 194 = 14 , 195 = 15 , 196 = 16 , 197 = 17 , 198 = 18 , 199 = 19 , 200 = 2 ,
---------------------------------------------------------------------------------------------------------------
Enter First number:
100
Enter Second number:
200
sum of n digit number between 100 To 200 using do while loop is:
100 = 1 , 101 = 2 , 102 = 3 , 103 = 4 , 104 = 5 , 105 = 6 , 106 = 7 , 107 = 8 , 108 = 9 , 109 = 10 , 110 = 2 , 111 = 3 , 112 = 4 , 113 = 5 , 114 = 6 , 115 = 7 , 116 = 8 , 117 = 9 , 118 = 10 , 119 =
 11 , 120 = 3 , 121 = 4 , 122 = 5 , 123 = 6 , 124 = 7 , 125 = 8 , 126 = 9 , 127 = 10 , 128 = 11 , 129 = 12 , 130 = 4 , 131 = 5 , 132 = 6 , 133 = 7 , 134 = 8 , 135 = 9 , 136 = 10 , 137 = 11 , 138 =
12 , 139 = 13 , 140 = 5 , 141 = 6 , 142 = 7 , 143 = 8 , 144 = 9 , 145 = 10 , 146 = 11 , 147 = 12 , 148 = 13 , 149 = 14 , 150 = 6 , 151 = 7 , 152 = 8 , 153 = 9 , 154 = 10 , 155 = 11 , 156 = 12 , 157
 = 13 , 158 = 14 , 159 = 15 , 160 = 7 , 161 = 8 , 162 = 9 , 163 = 10 , 164 = 11 , 165 = 12 , 166 = 13 , 167 = 14 , 168 = 15 , 169 = 16 , 170 = 8 , 171 = 9 , 172 = 10 , 173 = 11 , 174 = 12 , 175 = 1
3 , 176 = 14 , 177 = 15 , 178 = 16 , 179 = 17 , 180 = 9 , 181 = 10 , 182 = 11 , 183 = 12 , 184 = 13 , 185 = 14 , 186 = 15 , 187 = 16 , 188 = 17 , 189 = 18 , 190 = 10 , 191 = 11 , 192 = 12 , 193 = 1
3 , 194 = 14 , 195 = 15 , 196 = 16 , 197 = 17 , 198 = 18 , 199 = 19 , 200 = 2 ,
```

2. Develop a Java program to generate the Fibonacci series up to a given limit using all three loop.

```
import java.util.*;
public class FibnonacciNumUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter n number:");
		int n=sc.nextInt();
		System.out.println("Fibonacci number upto "+n+" using foor loop is:");
		int a=0,b=1,c=0;
		for(int i=1;i<=n;i++)
		{
			System.out.print(a+" ");
			c=a+b;
			a=b;
			b=c;
		}
		System.out.println("\n----------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter n number:");
		int n1 = sc.nextInt();
		System.out.println("Fibonacci number upto "+n1+" using while loop is:");
		int j=1,c1=0,a1=0,b1=1;
		while(j<=n1)
		{
			System.out.print(a1+" ");
			c1=a1+b1;
			a1=b1;
			b1=c1;
		j++;
		}
		System.out.println("\n----------------------------------------------------------------------------------------------------------------------------");
```

```
		System.out.println("Enter n number:");
		int m1 = sc.nextInt();
		System.out.println("Fibonacci number upto "+m1+" using do while loop is:");
		int k=1;
		int a2=0,b2=1,c2=0;
		do
		{
			System.out.print(a2+" ");
			c2=a2+b2;
			a2=b2;
			b2=c2;
		k++;
		}while(k<=m1);
		System.out.println("\n----------------------------------------------------------------------------------------------------------------------------");
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac FibnonacciNumUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java FibnonacciNumUsingAllLoop
Enter n number:
5
Fibonacci number upto 5 using foor loop is:
0 1 1 2 3
----------------------------------------------------------------------------------------------------
Enter n number:
10
Fibonacci number upto 10 using while loop is:
0 1 1 2 3 5 8 13 21 34
----------------------------------------------------------------------------------------------------
Enter n number:
15
Fibonacci number upto 15 using do while loop is:
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377
----------------------------------------------------------------------------------------------------
```

3. Write a Java program to print the multiplication table of numbers from 1 to 10 using nested loops. (All three loop).

```
import java.util.*;
public class MultiplicationTableUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter Table number:");
		int n=sc.nextInt();
		System.out.println("Multiplication table number upto "+n+" using foor loop is:");
		for(int i=1;i<=n;i++)
		{
			for(int j=1;j<=10;j++)
			{
				System.out.print((i*j)+" ");
			}
			System.out.println();
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter Table number:");
		int n1 = sc.nextInt();
		System.out.println("Multiplication table number upto "+n1+" using while loop is:");
		int k=1;
		while(k<=n1)
		{
			int l=1;
			while(l<=10)
			{
				System.out.print((k*l)+" ");
			l++;
			}
			System.out.println();
		k++;
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter Table number:");
		int m1 = sc.nextInt();
		System.out.println("Multiplication table number upto "+m1+" using do while loop is:");
		int o=1;
		do
		{
			int p=1;
			do
			{
				System.out.print((o*p)+" ");
			p++;
			}while(p<=10);
			System.out.println();
		o++;
		}while(o<=m1);
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------");
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac MultiplicationTableUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java MultiplicationTableUsingAllLoop
Enter Table number:
10
Multiplication table number upto 10 using foor loop is:
1 2 3 4 5 6 7 8 9 10
2 4 6 8 10 12 14 16 18 20
3 6 9 12 15 18 21 24 27 30
4 8 12 16 20 24 28 32 36 40
5 10 15 20 25 30 35 40 45 50
6 12 18 24 30 36 42 48 54 60
7 14 21 28 35 42 49 56 63 70
8 16 24 32 40 48 56 64 72 80
9 18 27 36 45 54 63 72 81 90
10 20 30 40 50 60 70 80 90 100

---------------------------------------------------------------------------------------------------------------------
Enter Table number:
10
Multiplication table number upto 10 using while loop is:
1 2 3 4 5 6 7 8 9 10
2 4 6 8 10 12 14 16 18 20
3 6 9 12 15 18 21 24 27 30
4 8 12 16 20 24 28 32 36 40
5 10 15 20 25 30 35 40 45 50
6 12 18 24 30 36 42 48 54 60
7 14 21 28 35 42 49 56 63 70
8 16 24 32 40 48 56 64 72 80
9 18 27 36 45 54 63 72 81 90
10 20 30 40 50 60 70 80 90 100

---------------------------------------------------------------------------------------------------------------------
Enter Table number:
10
Multiplication table number upto 10 using do while loop is:
1 2 3 4 5 6 7 8 9 10
2 4 6 8 10 12 14 16 18 20
3 6 9 12 15 18 21 24 27 30
4 8 12 16 20 24 28 32 36 40
5 10 15 20 25 30 35 40 45 50
6 12 18 24 30 36 42 48 54 60
7 14 21 28 35 42 49 56 63 70
8 16 24 32 40 48 56 64 72 80
9 18 27 36 45 54 63 72 81 90
10 20 30 40 50 60 70 80 90 100

---------------------------------------------------------------------------------------------------------------------
```

4. Implement a Java program to find the factorial of numbers from 1 to 10 using nested loops. (All three loop).

```
import java.util.*;
public class FactorialOfNNumUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter First number:");
		int a=sc.nextInt();
		System.out.println("Enter Second number:");
		int b = sc.nextInt();
		System.out.println("Factorial of number between "+a+" To "+b+" using foor loop is:");
		for(int i=a;i<=b;i++)
		{
			int fact=1;
			for(int j=1;j<=i;j++)
			{
				fact*=j;
			}
				System.out.println(i+" = "+fact);
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int n =sc.nextInt();
		System.out.println("Enter Second number:");
		int n1 = sc.nextInt();
		System.out.println("Factorial of number between "+n+" To "+n1+" using while loop is:");
		int j=n;
		while(j<=n1)
		{
			int fact1=1,l=1;
			while(l<=j)
			{
```

```
				fact1*=l;
			l++;
			}
				System.out.println(j+" = "+fact1);
		j++;
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int m =sc.nextInt();
		System.out.println("Enter Second number:");
		int m1 = sc.nextInt();
		System.out.println("Factorial of number between "+m+" To "+m1+" using do while loop is:");
		int k=m;
		do
		{
			int fact2=1,z=1;
			do
			{
				fact2*=z;
			z++;
			}while(z<=k);
				System.out.println(k+" = "+fact2);
		k++;
		}while(k<=m1);
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac FactorialOfNNumUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java FactorialOfNNumUsingAllLoop
Enter First number:
1
Enter Second number:
10
Factorial of number between 1 To 10 using foor loop is:
1 = 1
2 = 2
3 = 6
4 = 24
5 = 120
6 = 720
7 = 5040
8 = 40320
9 = 362880
10 = 3628800

-----------------------------------------------------------------------------------------------------------------------
Enter First number:
1
Enter Second number:
10
Factorial of number between 1 To 10 using while loop is:
1 = 1
2 = 2
3 = 6
4 = 24
5 = 120
6 = 720
7 = 5040
8 = 40320
9 = 362880
10 = 3628800

-----------------------------------------------------------------------------------------------------------------------
Enter First number:
1
Enter Second number:
10
Factorial of number between 1 To 10 using do while loop is:
1 = 1
2 = 2
3 = 6
4 = 24
5 = 120
6 = 720
7 = 5040
8 = 40320
9 = 362880
```

5. Develop a Java program to find all Armstrong numbers in a given range using nested loops. (All three loop)

```
import java.util.*;
public class ArmstrongNumUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter First number:");
		int a=sc.nextInt();
		System.out.println("Enter Second number:");
		int b = sc.nextInt();
		System.out.println("Armstrong number between "+a+" To "+b+" using foor loop is:");
		for(int i=a;i<=b;i++)
		{
			int rem=0,temp=i,rev=0;
			for(;temp!=0;)
			{
				rem=temp%10;
				rev+=(rem*rem*rem);
				temp=temp/10;
			}
			if(rev==i)
			{

				System.out.print(rev+"  ");
			}
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int n =sc.nextInt();
		System.out.println("Enter Second number:");
		int n1 = sc.nextInt();
		System.out.println("Armstrong number between "+n+" To "+n1+" using while loop is:");
		int j=n;
		while(j<=n1)
		{
			int rem1=0,temp1=j,rev1=0;
			while(temp1!=0)
			{
				rem1=temp1%10;
				rev1+=(rem1*rem1*rem1);
				temp1=temp1/10;
			}
			if(rev1==j)
			{
				System.out.print(rev1+"  ");
			}
		j++;
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int m =sc.nextInt();
		System.out.println("Enter Second number:");
		int m1 = sc.nextInt();
		System.out.println("sum of n digit number between "+m+" To "+m1+" using do while loop is:");
		int k=m;
		do
		{
			int rem2=0,temp2=k,rev2=0;
			do
			{
				rem2=temp2%10;
				rev2+=(rem2*rem2*rem2);
				temp2=temp2/10;
			}while(temp2!=0);
			if(rev2==k)
			{
				System.out.print(rev2+"  ");
			}
		k++;
		}while(k<=m1);
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac ArmstrongNumUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java ArmstrongNumUsingAllLoop
Enter First number:
1
Enter Second number:
1000
Armstrong number between 1 To 1000 using foor loop is:
1  153  370  371  407
-----------------------------------------------------------------------------------------------------------------
Enter First number:
1
Enter Second number:
1000
Armstrong number between 1 To 1000 using while loop is:
1  153  370  371  407
-----------------------------------------------------------------------------------------------------------------
Enter First number:
1
Enter Second number:
1000
sum of n digit number between 1 To 1000 using do while loop is:
1  153  370  371  407
```

6. Write a java program take an input of n digit number from user and find the secmax digit from that number (using all loop).

```
import java.util.*;
public class FindSecMaxNumUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter n number:");
		int n=sc.nextInt();
		System.out.println("Max And Second Max number of "+n+" using for loop is:");
		int rem=0,max=0,secmax=0;
		for(;n!=0;)
		{
			rem=n%10;
			if(rem>max)
			{
				secmax=max;
				max=rem;
			}
			else if(rem>secmax && max!=rem)
			{
				secmax=rem;
			}
			n=n/10;
		}
		System.out.println("Max is:"+max);
		System.out.println("Second Max is:"+secmax);
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter n number:");
		int n1 = sc.nextInt();
		System.out.println("Max And Second Max number of "+n1+" using while loop is:");

		int rem1=0,max1=0,secmax1=0;
		while(n1!=0)
		{
			rem1=n1%10;
			if(rem1>max1)
			{
				secmax1=max1;
				max1=rem1;
			}
			else if(rem1>secmax1 && max1!=rem1)
			{
				secmax1=rem1;
			}

			n1=n1/10;
		}

		System.out.println("Max is:"+max1);
		System.out.println("Second Max is:"+secmax1);

		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter n number:");
		int m1 = sc.nextInt();
		System.out.println("Max And Second Max number of "+m1+" using do while loop is:");
		int rem2=0,max2=0,secmax2=0;
		do
		{
			rem2=m1%10;
			if(rem2>max2)
			{
				secmax2=max2;
				max2=rem2;
			}
			else if(rem2>secmax2 && max2!=rem2)
			{
				secmax2=rem2;
			}

			m1=m1/10;
		}while(m1!=0);

		System.out.println("Max is:"+max2);
		System.out.println("Second Max is:"+secmax2);

		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac FindSecMaxNumUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java FindSecMaxNumUsingAllLoop
Enter n number:
10088
Max And Second Max number of 10088 using for loop is:
Max is:8
Second Max is:1

-----------------------------------------------------------------------------------------------------------------------
Enter n number:
1234
Max And Second Max number of 1234 using while loop is:
Max is:4
Second Max is:3

-----------------------------------------------------------------------------------------------------------------------
Enter n number:
4433221
Max And Second Max number of 4433221 using do while loop is:
Max is:4
Second Max is:3

-----------------------------------------------------------------------------------------------------------------------
```

7. Create a Java program to generate all prime numbers between 1 to 100 using nested loops.

```
import java.util.*;
public class PrimeOfNNumUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter First number:");
		int a=sc.nextInt();
		System.out.println("Enter Second number:");
		int b = sc.nextInt();
		System.out.println("Prime number between "+a+" To "+b+" using foor loop is:");
		for(int i=a;i<=b;i++)
		{
			int c=0;
			for(int j=1;j<=i;j++)
			{
				if(i%j==0)
				{
					c++;
				}
			}
			if(c==2)
			{
				System.out.println(i+"  ");
			}
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int n =sc.nextInt();
		System.out.println("Enter Second number:");
		int n1 = sc.nextInt();
		System.out.println("Factorial of number between "+n+" To "+n1+" using while loop is:");
		int s=n;
		while(s<=n1)
		{
			int c1=0,l=1;
			while(l<=s)
			{
				if(s%l==0)
				{
					c1++;
				}

			l++;
			}
			if(c1==2)
			{
				System.out.println(s+"  ");
			}
		s++;
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int m =sc.nextInt();
		System.out.println("Enter Second number:");
		int m1 = sc.nextInt();
		System.out.println("Factorial of number between "+m+" To "+m1+" using do while loop is:");
		int k=m;
		do
		{
			int c2=0,z=1;
			do
			{
				if(k%z==0)
				{
				{
					c2++;
				}

			z++;
			}while(z<=k);
			if(c2==2)
			{
				System.out.println(k+"  ");
			}

		k++;
		}while(k<=m1);
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac PrimeOfNNumUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java PrimeOfNNumUsingAllLoop
Enter First number:
1
Enter Second number:
30
Prime number between 1 To 30 using foor loop is:
2
3
5
7
11
13
17
19
23
29

-----------------------------------------------------------------------------------------------------------------
Enter First number:
31
Enter Second number:
60
Factorial of number between 31 To 60 using while loop is:
31
37
41
43
47
53
59

-----------------------------------------------------------------------------------------------------------------
Enter First number:
61
Enter Second number:
100
Factorial of number between 61 To 100 using do while loop is:
61
67
71
73
79
83
89
97
```

8. Implement a Java program to print all factors of numbers from 1 to 100 using nested loops.

```
import java.util.*;
public class FactorsOfNNumUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter First number:");
		int a=sc.nextInt();
		System.out.println("Enter Second number:");
		int b = sc.nextInt();
		System.out.println("Factors of number between "+a+" To "+b+" using foor loop is:");
		for(int i=a;i<=b;i++)
		{
			System.out.print("Factors of: "+i+" is-->");
			for(int j=1;j<=i;j++)
			{
				if(i%j==0)
				{
					System.out.print(j+" ");
				}
			}
				System.out.println();
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int n =sc.nextInt();
		System.out.println("Enter Second number:");
		int n1 = sc.nextInt();
		System.out.println("Factors of number between "+n+" To "+n1+" using while loop is:");
		int s=n;
		while(s<=n1)
		{
			System.out.print("Factors of: "+s+" is-->");
			int l=1;
			while(l<=s)
			{
				if(s%l==0)
				{
					System.out.print(l+" ");
				}
			l++;
			}
			System.out.println();
		s++;
		}
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int m =sc.nextInt();
		System.out.println("Enter Second number:");
		int m1 = sc.nextInt();
		System.out.println("Factors of number between "+m+" To "+m1+" using do while loop is:");
		int k=m;
		do
		{
			System.out.print("Factors of: "+k+" is-->");
			int z=1;
			do
			{
				if(k%z==0)
				{
					System.out.print(z+" ");
				}
		k++;
		}while(k<=m1);
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java FactorsOfNNumUsingAllLoop
Enter First number:
1
Enter Second number:
30
Factors of number between 1 To 30 using foor loop is:
Factors of: 1 is-->1
Factors of: 2 is-->1 2
Factors of: 3 is-->1 3
Factors of: 4 is-->1 2 4
Factors of: 5 is-->1 5
Factors of: 6 is-->1 2 3 6
Factors of: 7 is-->1 7
Factors of: 8 is-->1 2 4 8
Factors of: 9 is-->1 3 9
Factors of: 10 is-->1 2 5 10
Factors of: 11 is-->1 11
Factors of: 12 is-->1 2 3 4 6 12
Factors of: 13 is-->1 13
Factors of: 14 is-->1 2 7 14
Factors of: 15 is-->1 3 5 15
Factors of: 16 is-->1 2 4 8 16
Factors of: 17 is-->1 17
Factors of: 18 is-->1 2 3 6 9 18
Factors of: 19 is-->1 19
Factors of: 20 is-->1 2 4 5 10 20
Factors of: 21 is-->1 3 7 21
Factors of: 22 is-->1 2 11 22
Factors of: 23 is-->1 23
Factors of: 24 is-->1 2 3 4 6 8 12 24
Factors of: 25 is-->1 5 25
Factors of: 26 is-->1 2 13 26
Factors of: 27 is-->1 3 9 27
Factors of: 28 is-->1 2 4 7 14 28
Factors of: 29 is-->1 29
Factors of: 30 is-->1 2 3 5 6 10 15 30

------------------------------------------------------------------------------------------------------------------------
Enter First number:
31
Enter Second number:
60
Factors of number between 31 To 60 using while loop is:
Factors of: 31 is-->1 31
Factors of: 32 is-->1 2 4 8 16 32
Factors of: 33 is-->1 3 11 33
Factors of: 34 is-->1 2 17 34
Factors of: 35 is-->1 5 7 35
Factors of: 36 is-->1 2 3 4 6 9 12 18 36
Factors of: 37 is-->1 37
```

```
Factors of: 38 is-->1 2 19 38
Factors of: 39 is-->1 3 13 39
Factors of: 40 is-->1 2 4 5 8 10 20 40
Factors of: 41 is-->1 41
Factors of: 42 is-->1 2 3 6 7 14 21 42
Factors of: 43 is-->1 43
Factors of: 44 is-->1 2 4 11 22 44
Factors of: 45 is-->1 3 5 9 15 45
Factors of: 46 is-->1 2 23 46
Factors of: 47 is-->1 47
Factors of: 48 is-->1 2 3 4 6 8 12 16 24 48
Factors of: 49 is-->1 7 49
Factors of: 50 is-->1 2 5 10 25 50
Factors of: 51 is-->1 3 17 51
Factors of: 52 is-->1 2 4 13 26 52
Factors of: 53 is-->1 53
Factors of: 54 is-->1 2 3 6 9 18 27 54
Factors of: 55 is-->1 5 11 55
Factors of: 56 is-->1 2 4 7 8 14 28 56
Factors of: 57 is-->1 3 19 57
Factors of: 58 is-->1 2 29 58
Factors of: 59 is-->1 59
Factors of: 60 is-->1 2 3 4 5 6 10 12 15 20 30 60

-----------------------------------------------------------------------------------------------------------------------
Enter First number:
61
Enter Second number:
100
Factors of number between 61 To 100 using do while loop is:
Factors of: 61 is-->1 61
Factors of: 62 is-->1 2 31 62
Factors of: 63 is-->1 3 7 9 21 63
Factors of: 64 is-->1 2 4 8 16 32 64
Factors of: 65 is-->1 5 13 65
Factors of: 66 is-->1 2 3 6 11 22 33 66
Factors of: 67 is-->1 67
Factors of: 68 is-->1 2 4 17 34 68
Factors of: 69 is-->1 3 23 69
Factors of: 70 is-->1 2 5 7 10 14 35 70
Factors of: 71 is-->1 71
Factors of: 72 is-->1 2 3 4 6 8 9 12 18 24 36 72
Factors of: 73 is-->1 73
Factors of: 74 is-->1 2 37 74
Factors of: 75 is-->1 3 5 15 25 75
Factors of: 76 is-->1 2 4 19 38 76
Factors of: 77 is-->1 7 11 77
Factors of: 78 is-->1 2 3 6 13 26 39 78
Factors of: 79 is-->1 79
Factors of: 80 is-->1 2 4 5 8 10 16 20 40 80
Factors of: 81 is-->1 3 9 27 81
Factors of: 82 is-->1 2 41 82
Factors of: 83 is-->1 83
Factors of: 84 is-->1 2 3 4 6 7 12 14 21 28 42 84
Factors of: 85 is-->1 5 17 85
Factors of: 86 is-->1 2 43 86
Factors of: 87 is-->1 3 29 87
Factors of: 88 is-->1 2 4 8 11 22 44 88
Factors of: 89 is-->1 89
Factors of: 90 is-->1 2 3 5 6 9 10 15 18 30 45 90
Factors of: 91 is-->1 7 13 91
Factors of: 92 is-->1 2 4 23 46 92
Factors of: 93 is-->1 3 31 93
Factors of: 94 is-->1 2 47 94
Factors of: 95 is-->1 5 19 95
Factors of: 96 is-->1 2 3 4 6 8 12 16 24 32 48 96
Factors of: 97 is-->1 97
Factors of: 98 is-->1 2 7 14 49 98
Factors of: 99 is-->1 3 9 11 33 99
Factors of: 100 is-->1 2 4 5 10 20 25 50 100
```

9. Write a Java program to calculate the sum of the series 1 + 1/2 + 1/3 + ... + 1/n using nested loops.

```
import java.util.*;
public class CoumputeTheAddSeriesUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter n number:");
		int v=sc.nextInt();
		double j=1,a=0,ans=0,sum=0;
		for(int i=2;i<=v;i++)
		{
			a=(double)j/i;
			sum+=a;
		}
		ans=1+sum;
		System.out.print(ans);
		System.out.println("\n----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter n number:");
		int n =sc.nextInt();
		double s=2,a1=0,ans1=0,n1=1,sum1=0;
		while(s<=n)
		{
			a1=(double)n1/s;
			sum1+=a1;
		s++;
		}
		ans1=1+sum1;
		System.out.print(ans1);
		System.out.println("\n----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter First number:");
		int m =sc.nextInt();

		double m2=2,a2=0,ans2=0,m1=1,sum2=0;
		do
		{
			a2=(double)m1/m2;
			sum2+=a2;
		m2++;
		}while(m2<=m);
		ans2=1+sum2;
		System.out.print(ans2);

	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac CoumputeTheAddSeriesUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java CoumputeTheAddSeriesUsingAllLoop
Enter n number:
4
2.083333333333333
----------------------------------------------------------------------------------------------------------------------------------------
Enter n number:
3
1.8333333333333333
----------------------------------------------------------------------------------------------------------------------------------------
Enter First number:
1
1.5
```

10. Write a java program take an input of n digit number from user and find the secmin digit from that number (using all loop)

```
import java.util.*;
public class FindSecMinNumUsingAllLoop
{
	public static void main(String[]ar)
	{
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter n number:");
		int n=sc.nextInt();
		System.out.println("Min And Second Min number of "+n+" using for loop is:");
		int rem=0,min=10,secmin=10;
		for(;n!=0;)
		{
			rem=n%10;
			if(rem<min)
			{
				secmin=min;
				min=rem;
			}
			else if(rem<secmin && min!=rem)
			{
				secmin=rem;
			}
			n=n/10;
		}
		System.out.println("Min is:"+min);
		System.out.println("Second Min is:"+secmin);
		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter n number:");
		int n1 = sc.nextInt();
		System.out.println("Min And Second Min number of "+n1+" using while loop is:");

		int rem1=0,min1=10,secmin1=10;
		while(n1!=0)
		{
			rem1=n1%10;
			if(rem1<min1)
			{
				secmin1=min1;
				min1=rem1;
			}
			else if(rem1<secmin1 && min1!=rem1)
			{
				secmin1=rem1;
			}

			n1=n1/10;
		}

		System.out.println("Min is:"+min1);
		System.out.println("Second Min is:"+secmin1);

		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");

		System.out.println("Enter n number:");
		int m1 = sc.nextInt();
		System.out.println("Min And Second Min number of "+m1+" using do while loop is:");
		int rem2=0,min2=10,secmin2=10;
		do
		{
			rem2=m1%10;
			if(rem2<min2)
			{
				secmin2=min2;
				min2=rem2;
			}
			else if(rem2<secmin2 && min2!=rem2)
			{
				secmin2=rem2;
			}

			m1=m1/10;
		}while(m1!=0);

		System.out.println("Min is:"+min2);
		System.out.println("Second Min is:"+secmin2);

		System.out.println("\n-----------------------------------------------------------------------------------------------------------------------------------------");
	}
}
```

Output:

```
C:\Users\Shree\Desktop\Assingnment_Java_Codenera>javac FindSecMinNumUsingAllLoop.java

C:\Users\Shree\Desktop\Assingnment_Java_Codenera>java FindSecMinNumUsingAllLoop
Enter n number:
1234
Min And Second Min number of 1234 using for loop is:
Min is:1
Second Min is:2

---------------------------------------------------------------------------------------------------------------------
Enter n number:
100882
Min And Second Min number of 100882 using while loop is:
Min is:0
Second Min is:1

---------------------------------------------------------------------------------------------------------------------
Enter n number:
12362
Min And Second Min number of 12362 using do while loop is:
Min is:1
Second Min is:2

---------------------------------------------------------------------------------------------------------------------
```