BITS PILANI, DUBAI CAMPUS
DUBAI INTERNATIONAL ACADEMIC CITY, DUBAI

FIRST SEMESTER 2021 – 2022
COURSE: F213 (Object Oriented Programming)
COMPONENT: Practical Sheet 1 **DATE:** 6-9th September 2021

Q.1 Write a Java program to compute average and percentage of 5 subjects and print grade using if else ladder

Grade = A if percentage>70

Grade = B if percentage>60

Grade = C if percentage>50

Grade = D if percentage>40

Grade =E if percentage>30

Solution:

```
import java.util.Scanner;

public class GradeCalc
{
   public static void main(String[] args)
   {
      char grade;

      Scanner s = new Scanner(System.in);
      float total = 0F;
      for(int i = 1; i<=5; i++)
      {
            System.out.printf("Enter your test score for Subject %d: ",i);
            total += s.nextFloat();
      }
      System.out.println("Your total is " + total);
```

```
      System.out.println("Your average is " + total/5);
      System.out.println("Your percentage is " + total*100/500 +"%");
      total /= 5;
      if (total >= 90)
      {
         grade = 'A';
      }
      else if (total >= 80)
      {
         grade = 'B';
      }
      else if (total >= 70)
      {
         grade = 'C';
      }
      else if (total >= 60)
      {
         grade = 'D';
      }
      else
      {
         grade = 'F';
      }


      System.out.println("Your grade is " + grade);
      s.close();
   }
}
```

Output:

```
anura@LAPTOP-JH3Q5OBP MINGW64 /e/College/OOPS/Practical/Practical_1
$ java GradeCalc.java
Enter your test score for Subject 1: 87
Enter your test score for Subject 2: 82
Enter your test score for Subject 3: 91
Enter your test score for Subject 4: 88
Enter your test score for Subject 5: 98
Your total is 446.0
Your average is 89.2
Your percentage is 89.2%
Your grade is B
```

Q.2 Write a program in Java to print quotient and remainder when user provides divisor and dividend at run time.

Solution:

```java
import java.util.Scanner;

public class QuotientRemainder {

  public static void main(String[] args) {

    Scanner s = new Scanner(System.in);
    System.out.print("Please enter the dividend: ");
    int dividend = s.nextInt();

    System.out.print("Please enter the divisor: ");
    int divisor = s.nextInt();
    int quotient = dividend / divisor;
    int remainder = dividend % divisor;

    System.out.println("Quotient = " + quotient);
    System.out.println("Remainder = " + remainder);
    s.close();
  }
}
```

Output:

```
anura@LAPTOP-JH3Q5OBP MINGW64 /e/College/OOPS/Practical/Practical_1
$ java QuotientRemainder.java
Please enter the dividend: 25
Please enter the divisor: 8
Quotient = 3
Remainder = 1
```

Q3. Write a program in Java to print simple interest.

Solution:

```java
import java.util.Scanner;
public class SimpleInterest
{
    public static void main(String args[])
    {
        float p, r, t, sinterest;
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter the Principal : ");
        p = scan.nextFloat();
        System.out.print("Enter the Rate of interest : ");
        r = scan.nextFloat();
        System.out.print("Enter the Time period : ");
        t = scan.nextFloat();
        scan.close();
        sinterest = (p * r * t) / 100;
        System.out.print("Simple Interest is: " +sinterest);
    }
}
```

Output:

```
anura@LAPTOP-JH3Q5OBP MINGW64 /e/College/OOPS/Practical/Practical_1
$ java SimpleInterest.java
Enter the Principal : 5
Enter the Rate of interest : 2
Enter the Time period : 10
Simple Interest is: 1.0
```

Q4. Write a Java program to reverse a number using while loop.

Solution:

```java
import java.util.Scanner;
class Reverse {
  public static void main(String[] args) {

    Scanner s = new Scanner(System.in);
    System.out.print("Please enter the number: ");
    int num = s.nextInt();
    int reversed = 0;
    while(num != 0)
    {
      int digit = num % 10;
      reversed = reversed * 10 + digit;
      num /= 10;
    }
    s.close();
    System.out.println("Reversed Number: " + reversed);
  }
}
```

Output:

```
anura@LAPTOP-JH3Q5OBP MINGW64 /e/College/OOPS/Practical/Practical_1
$ java Reverse.java
Please enter the number: 78952
Reversed Number: 25987
```