Name of the Course : Java for beginners: Step–by–step hands-on guide to Java

Level : Easy

Tool Stack : Java Basic Programming

Problem Statement : There is an app for bike race which provides bonus points for the player. In this app the player has to play the race and on completion, the total kilometers travelled by the player is calculated.

Based on this distance travelled, the product of digits in the odd position and also product of digits in the even position is calculated. Whichever is highest, that is the bonus points given to the user.

If the product of odd and even position digits are same, then the player should receive double the product as bonus.

Description : Create a class BikeRace.java with the main method.

Note : Input should be the distance travelled and the output is the bonus points. If the input is less than zero, the output should be “Invalid Input”.

**Code:**

**import** java.util.Scanner;

**class** BikeRace{

String findBonusPoint(**int** d) {

**int** bpe=1,bpo=1,i=1,rem=0;

**if**(d<0)

{

**return** "Invalid Input";

}

**else** **if**(d==0)

{

**return** "Your bonus points is "+rem;

}

**else**

{

**while**(d!=0)

{

rem=d%10;

d=d/10;

**if**(i%2==1)

{

bpo=bpo\*rem;

}

**if**(i%2==0)

{

bpe=bpe\*rem;

}

i++;

}

**if**(bpe==bpo)

{

bpe=2\*bpo;

**return** "Your bonus points is "+bpe;

}

**else** **if**(bpe>bpo)

{

**return** "Your bonus points is "+bpe;

}

**else**

{

**return** "Your bonus points is "+bpo;

}

}

}

}

**public** **class** BikeRaceMain {

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

BikeRace bike=**new** BikeRace();

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Enter the distance travelled");

**int** d=sc.nextInt();

String bonus=bike.findBonusPoint(d);

System.***out***.println(bonus);

}

}

Junit Testing

**import static org.junit.jupiter.api.Assertions.\*;**

**import org.junit.jupiter.api.Test;**

**class BikeRaceMainTest {**

**@Test**

**void testFindBonusPoint() {**

**BikeRace b=new BikeRace();**

**assertEquals("Your bonus points is 72", b.findBonusPoint(8694));**

**assertEquals("Invalid Input", b.findBonusPoint(-1));**

**}**

**}**

Test Data1

Enter the distance travelled

8694

Your bonus points is 72

Test Data1

Enter the distance travelled

-1

**Invalid Input**

Learning outcome: Participant could able to learn how to use the Scanner class to read input and also use of If-else control statement.