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DEPARTMENT OF COMPUTER ENGINEERING BBM104



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Subject : Introduction to Java on Eclipse Platform Math with Java

Programming Language : Java

1.Aim

One of our purposes is define inputs and formulas In java and try different values and get correct results. Another purpose is getting used to using Java(Login to Java)

2. Software Usage

I used Java Eclipse Neon.2 and Java SE Development Kit 8 for encode and compile. I used putty and winscp for test in dev. I used notepad++ for protect codes. I used Cmd for test on Windows. I used Opera web browser for research

3. Sample Results

```
integrateReimann Func1 -5 12 40 Result: 608.9107812499999
integrateReimann Func1 -5 12 200 Result: 609.1564312500013
integrateReimann Func2 -12 17 10 Result: 565.5404384807164
integrateReimann Func2 -12 17 100 Result: 568.4083507135506
integrateReimann Func3 0.2 0.6 50 Result: 0.15517096022190477
Archsinh 0.4 Result: 0.3900353327969141
Armstrong 3 Result: 0 1 2 3 4 5 6 7 8 9 153 370 371 407
```

```
integrateReimann Func1 2 7 10 Result: 104.0625
integrateReimann Func1 2 7 200 Result: 104.16640625000045
integrateReimann Func2 -2 17 10 Result: 394.4805068596701
integrateReimann Func2 -12 7 100 Result: 387.14543723349584
integrateReimann Func3 0.2 0.6 200 Result: 0.15517065279973014
Archsinh 0.6 Result: 0.568829867954679
Armstrong 5 Result: 0 1 2 3 4 5 6 7 8 9 153 370 371 407 1634 8208 9474 54748 92727 93084
```

```
integrateReimann Func1 11 22 10 Result: 2956.057500000001
integrateReimann Func1 11 22 200 Result: 2957.1638937499897
integrateReimann Func2 -1 1 10 Result: 36.88075481571281
integrateReimann Func2 -12 71 100 Result: 1676.7998041838414
integrateReimann Func3 0.2 0.8 10 Result: 0.28562119455415963
Archsinh 0.8 Result: 0.73298321768061
Armstrong 7 Result: 0 1 2 3 4 5 6 7 8 9 153 370 371 407 1634 8208 9474 54748 92727 93084 548834 1741725 4210818 9800817 9926315
```

4. Personal comments including

The first of the difficulties I encountered, Eclipse was setup to login to Java.

I had trouble changing the location of the program because of the extensions of the program.

In the coding section, it is confusing to be the input to the command line, and it is difficult to understand what the input file should be in which order.

Using cmd; After compiling the file with javac ,Java HelloJava input.txt(command line) instead of writing java Hellojava.class to get the error left me in a difficult situation.

I used input codes(function) to write the desired middle riemann sum, arcsinh (x) equation and armstrong numbers codes.

Because I did not know how to use a scanner.

Then I wrote the algorithm for Armstrong Numbers.

I have defined the strength of the number of digits when writing the algorithm.

I multiply each digit of the numbers by the strength I define and collect it in the for loop.

If it is equal, I said that number is Armstrong Number

My problem here is that if input is typed, it would not accept 0.8 input incorrectly 0.8 input.

Afterwards he accepted 0.8 by reading it from the input file

When writing exponential numbers, it was a waste of my time use codes instead of `**`(python interpreter can understand `**`)

I understood the difference between print and println code to write output side by side. In Python we were using join, "+ \n" or end.

Then I created the formula by encoding the arcsinh(x) equation.

I learned that I could make it easier with the factorial for loop.

In the middle riemann sum, I learned the middle riemann integral and I wrote the formula algorithm. I learned how to use functions when writing.

I learned that how can I write code outside of Public static void main, I will get errors if I run out of public class and public class Hellojava should be the same as Hellojava.java.

After coding the generic sections, I have provided the necessary number of input.txt for all functions.

I understand that When input.txt is split, it returns to array structure and I tried to use them in the if statement. I learned to use the if statement.

But in the if statement I could not parse string (word) using the array "==" property.

I learned to use ".equals" instead of "==" .(nonsense)

I learned and used the ".toLowerCase ()" code for avoid the errors.

While compiling the Java file on the dev, it was surprising that the program could not detect the Turkish character Because Python did not give an error.