Writing Efficient Programs

Workbook

Answer the following

1. A program to display the sum of factors of a number.

   Solution-A Write your understanding about the below code?

   ```java
   1  class SolutionA {
   2      public static void main(String[] args) {
   3          int num = 220;
   4          int i = 0;
   5          int sumOfFacts = 0;
   6          while (i <= num / 2) {
   7              if (num % i == 0) {
   8                  sumOfFacts += i;
   9              }
   10             i++;
   11         }
   12         System.out.println(sumOfFacts);
   13     }
   14 }
   ```


   Solution-B Write your understanding about the below code?

   ```java
   1  class SolutionB {
   2      public static void main(String[] args) {
   3          int num = 220;
   4          int i = 0;
   5          int sumOfFacts = -num;
   6          while (i * i < num) {
   7              if (num % i == 0) {
   8                  sumOfFacts += i;
   9                  sumOfFacts += num / i;
   10             }
   11             i++;
   12         }
   13         System.out.println(sumOfFacts);
   14     }
   15 }
   ```

```
```

Observe List out the differences between SolutionA and SolutionB?

```
```

2. A program to display the greatest of three numbers?

Solution-A Wirte your understanding about the below code?

```
1  class SolutionA {
2      public static void main(String[] args) {
3          int a = Integer.parseInt(args[0]);
4          int b = Integer.parseInt(args[1]);
5          int c = Integer.parseInt(args[2]);
6          if (a > b && a > c) {
7              System.out.println(a);
8          } else if (b > c) {
9              System.out.println(b);
10         } else {
11             System.out.println(c);
12         }
13     }
14 }
```

```
```

Solution-B Write your understandinf about the below code?

```
1  class SolutionB {
2      public static void main(String[] args) {
3          int a = Integer.parseInt(arsg[0]);
4          int b = Integer.parseInt(args[1]);
5          int c = Integer.parseInt(args[2]);
6          int max = a;
7          if (b > max)
8              max = b;
9          if (c > max)
10             max = c;
11         System.out.println(max);
12     }
13 }
```

Observe List out the differences between SolutionA and SolutionB?