Section 1 – Error Driven Learning In java

**Snippet 1:**

public class Main {

public void main(String[] args) {

System.out.println("Hello, World!");

}

}

**Error –**

class Main is public, should be declared in a file named Main.java

public class Main

**explanation –**

the main method should be declared as public static void main(String[] args) instead of public void main(String[] args) and also public should not be there in the code in first line

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Hello, World!");

}

}

**Snippet 2:**

public class Main {

static void main(String[] args) {

System.out.println("Hello, World!");

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

public should be there in second line before static not in 1st line

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Hello, World!");

}

}

**Snippet 3:**

public class Main {

public static int main(String[] args) {

System.out.println("Hello, World!");

return 0;

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main

snippet.java:4: error: incompatible types: unexpected return value

return 0;

**explanation –**

public should be there in not declared in file name and also in place of int there should be void.

Syntax error of return 0 this return 0 line shouldn’t be there

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Hello, World!");

}

}

**Snippet 4:**

public class Main {

public static void main() {

System.out.println("Hello, World!");

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main

Error: Main method not found in class Main, please define the main method as:

public static void main(String[] args)

or a JavaFX application class must extend javafx.application.Application

**explanation –**

public should be there in not declared in file named Main.java and also in first line in main (String[] args) this is not there it’s a syntax error.

**Corrected code**

class Main {

public static void main(String args[]) {

System.out.println("Hello, World!");

}

}

**Snippet 5:**

public class Main {

public static void main(String[] args) {

System.out.println("Main method with String[] args");

}

public static void main(int[] args) {

System.out.println("Overloaded main method with int[] args");

}

} **Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main

**explanation –**

public should be there in not declared in file named Main.java and it only print Main method with String[] args.

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Main method with String[] args");

}

public static void main(int[] args) {

System.out.println("Overloaded main method with int[] args");

}

}

**Snippet 6:**

public class Main {

public static void main(String[] args) {

System.out.println("Main method with String[] args");

}

public static void main(int[] args) {

System.out.println("Overloaded main method with int[] args");

}

} **Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

^

snippet.java:3: error: cannot find symbol

int x = y + 10;

^

symbol: variable y

location: class Main

**explanation –**

firstly remove public from first line & then initialize y

**Corrected code**

class Main {

public static void main(String[] args) {

int y=5;

int x = y + 10;

System.out.println(x);

}

}

**Snippet 7:**

public class Main {

public static void main(String[] args) {

int x = "Hello";

System.out.println(x);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:3: error: incompatible types: String cannot be converted to int

int x = "Hello";

**explanation –**

firstly remove public from first line and then replace int from String.

**Corrected code**

class Main {

public static void main(String[] args) {

String x = "Hello";

System.out.println(x);

}

}

**Snippet 8:**

public class Main {

public static void main(String[] args) {

System.out.println("Hello, World!"

}

}

**Error –**

snippet.java:3: error: ')' expected

System.out.println("Hello, World!"

**explanation –**

firstly remove public from first line & then in sop line there in no closing bracket i.e ) and also semicolon ; is missing

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Hello, World!" );

}

}

**Snippet 9:**

public class Main {

public static void main(String[] args) {

int class = 10;

System.out.println(class);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:3: error: not a statement

int class = 10;

^

snippet.java:3: error: ';' expected

int class = 10;

^

snippet.java:3: error: <identifier> expected

int class = 10;

^

snippet.java:4: error: <identifier> expected

System.out.println(class);

^

snippet.java:4: error: illegal start of type

System.out.println(class);

^

snippet.java:4: error: <identifier> expected

System.out.println(class);

^

snippet.java:6: error: reached end of file while parsing

}

**explanation –**

firstly remove public from first line & change the word class as it is defined in java library.

**Corrected code**

class Main {

public static void main(String[] args) {

int value = 10;

System.out.println(value);

}

}

**Snippet 10:**

class Main {

public void display() {

System.out.println("No parameters");

}

public void display(int num) {

System.out.println("With parameter: " + num);

}

public static void main(String[] args) {

display();

display(5);

}

}**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:9: error: non-static method display() cannot be referenced from a static context

display();

^

snippet.java:10: error: non-static method display(int) cannot be referenced from a static context

display(5);

^

**explanation –**

firstly remove public from first line and

**Corrected code**

**Snippet 11:**

public class Main {

public static void main(String[] args) {

int[] arr = {1, 2, 3};

System.out.println(arr[5]);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

firstly remove public from first line & it get compile and as result it shows-

Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: Index 5 out of bounds for length 3

at Main.main(snippet.java:4)

**Corrected code**

class Main {

public static void main(String[] args) {

int[] arr = {1, 2, 3};

System.out.println(arr[5]);

}

}

**Snippet 12:**

public class Main {

public static void main(String[] args) {

while (true) {

System.out.println("Infinite Loop");

}

}

}**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

after removing public from first line it get corrected & get it print infinite loop infinite types.

**Corrected code**

class Main {

public static void main(String[] args) {

while (true) {

System.out.println("Infinite Loop");

}

}

}

**Snippet 13:**

public class Main {

public static void main(String[] args) {

String str = null;

System.out.println(str.length());

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

after removing public from first line it get corrected & it print Exception in thread "main" java.lang.NullPointerException

at Main.main(snippet.java:4)

**Corrected code**

class Main {

public static void main(String[] args) {

String str = null;

System.out.println(str.length());

}

}

**Snippet 14:**

Public class Main {

public static void main(String[] args) {

double num = "Hello";

System.out.println(num);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:3: error: incompatible types: String cannot be converted to double

double num = "Hello";

**explanation –**

after removing public from first line it get corrected & replace double to String

**Corrected code**

class Main {

public static void main(String[] args) {

String num = "Hello";

System.out.println(num);

}

}

**Snippet 15:**

Public class Main {

public static void main(String[] args) {

int num1 = 10;

int num2 = 5.5;

double result = num1 + num2;

System.out.println(result);

}

} **Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

incompatible types: possible lossy conversion from double to int

int result = num1 + num2;

**explanation –**

after removing public from first line it get corrected & replace int to double as one number is of double type.

**Corrected code**

class Main {

public static void main(String[] args) {

int num1 = 10;

double num2 = 5.5;

double result = num1 + num2;

System.out.println(result);

}

}

**Snippet 16:**

Public class Main {

public static void main(String[] args) {

int num = 10;

double result = num / 4;

System.out.println(result);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

after removing public from first line it get corrected & get answer 2.0

**Corrected code**

class Main {

public static void main(String[] args) {

int num = 10;

double result = num / 4;

System.out.println(result);

}

}

**Snippet 17:**

Public class Main {

public static void main(String[] args) {

int a = 10;

int b = 5;

int result = a \*\* b;

System.out.println(result);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:5: error: illegal start of expression

int result = a \*\* b;

**explanation –**

after removing public from first line it get corrected & replace a\*\*b to a\*b .

**Corrected code**

class Main {

public static void main(String[] args) {

int a = 10;

int b = 5;

int result = a \* b;

System.out.println(result);

}

}

**Snippet 18:**

Public class Main {

public static void main(String[] args) {

int a = 10;

int b = 5;

int result = a + b \* 2;

System.out.println(result);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

after removing public from first line it get corrected.

**Corrected code**

class Main {

public static void main(String[] args) {

int a = 10;

int b = 5;

int result = a + b \* 2;

System.out.println(result);

}

}

**Snippet 19:**

Public class Main {

public static void main(String[] args) {

int a = 10;

int b = 0;

int result = a / b;

System.out.println(result);

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

after removing public from first line it get corrected. & it get result like –

Exception in thread "main" java.lang.ArithmeticException: / by zero

at Main.main(snippet.java:5)

**Corrected code**

class Main {

public static void main(String[] args) {

int a = 10;

int b = 0;

int result = a / b;

System.out.println(result);

}

}

**Snippet 20:**

public class Main {

public static void main(String[] args) {

System.out.println("Hello, World")

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:3: error: ';' expected

System.out.println("Hello, World")

**explanation –**

after removing public from first line it get corrected. & also semicolon is missing after sop.

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Hello, World") ;

}

}

**Snippet 21:**

public class Main {

public static void main(String[] args) {

System.out.println("Hello, World!");

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:5: error: reached end of file while parsing

}

**explanation –**

after removing public from first line it get corrected. & closing bracket is missing

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Hello, World!");

}

}

**Snippet 22:**

public class Main {

public static void main(String[] args) {

static void displayMessage() {

System.out.println("Message");

}

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

javac snippet.java

snippet.java:3: error: illegal start of expression

static void displayMessage() {

^

snippet.java:7: error: class, interface, or enum expected

}

**explanation –**

after removing public from first line it get corrected. & remove static void displayMessage() {} whatenver sop write inside it give it outside.

**Corrected code**

class Main {

public static void main(String[] args) {

System.out.println("Message");

}

}

**Snippet 23:**

Public class Confusion {

public static void main(String[] args) {

int value = 2;

switch(value) {

case 1:

System.out.println("Value is 1");

case 2:

System.out.println("Value is 2");

case 3:

System.out.println("Value is 3");

default:

System.out.println("Default case");

}

}

} **Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

after removing public from first line it get corrected. & get output as

Value is 2

Value is 3

Default case

**Corrected code**

class Confusion {

public static void main(String[] args) {

int value = 2;

switch(value) {

case 1:

System.out.println("Value is 1");

case 2:

System.out.println("Value is 2");

case 3:

System.out.println("Value is 3");

default:

System.out.println("Default case");

}

}

**Snippet 24:**

public class MissingBreakCase {

public static void main(String[] args) {

int level = 1;

switch(level) {

case 1:

System.out.println("Level 1");

case 2:

System.out.println("Level 2");

case 3:

System.out.println("Level 3");

default:

System.out.println("Unknown level");

}

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

**explanation –**

after removing public from first line it get corrected. & get output as

Level 1

Level 2

Level 3

Unknown level

**Corrected code**

class MissingBreakCase {

public static void main(String[] args) {

int level = 1;

switch(level) {

case 1:

System.out.println("Level 1");

case 2:

System.out.println("Level 2");

case 3:

System.out.println("Level 3");

default:

System.out.println("Unknown level");

}

}

}

**Snippet 25:**

public class Switch {

public static void main(String[] args) {

double score = 85.0;

switch(score) {

case 100:

System.out.println("Perfect score!");

break;

case 85:

System.out.println("Great job!");

break;

default:

System.out.println("Keep trying!");

}

}

}

**Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

error: incompatible types: possible lossy conversion from double to int

switch(score) {

**explanation –**

after removing public from first line it get corrected. & change double to int.

**Corrected code**

class Switch{

public static void main(String[] args) {

int score = 85;

switch(score) {

case 100:

System.out.println("Perfect score!");

break;

case 85:

System.out.println("Great job!");

break;

default:

System.out.println("Keep trying!");

}

}

}

**Snippet 26:**

public class Switch {

public static void main(String[] args) {

int number = 5;

switch(number) {

case 5:

System.out.println("Number is 5");

break;

case 5:

System.out.println("This is another case 5");

break;

default:

System.out.println("This is the default case");

}

}

} **Error –**

snippet.java:1: error: class Main is public, should be declared in a file named Main.java

public class Main {

snippet.java:8: error: duplicate case label case 5

**explanation –**

after removing public from first line it get corrected. & change one case 5 to any other number

**Corrected code**

class Switch {

public static void main(String[] args) {

int number = 5;

switch(number) {

case 5:

System.out.println("Number is 5");

break;

case 6:

System.out.println("This is another case 5");

break;

default:

System.out.println("This is the default case");

}

}

}