Assignment-2

Java - CSA0285

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Inheritance:

- single
- multiple
- multilevel
- hierarchical
- hybrid

Single inheritance:

```
class A{
    void disA(){
        System.out.println("A");}}

class B extends A{
    void disB(){
        System.out.println("B");}}

class Test{
    public static void main(String[] args)
    {
        B obj = new B();
        obj.disA();
        obj.disB();}}
```

output:-

A

B

Multilevel Inheritance:-

```
class A{
    void disA(){
        System.out.println("A");}}

class B extends A{
```

```
    void disB(){
        System.out.println("B");}}
class C extends B{
    void disC(){
     System.out.println("C");}}
class Main{
    public static void main(String[] args){
        C d = new C();
        d.disA();
        d.disB();
        d.disC();}}
```

Output

A
B
C

Hierarchy

```
class A{
    void disA(){
        System.out.println("A");}}
class B extends A{
    void disB(){
        System.out.println("B");}}
class C extends C(){
    void disC(){
        System.out.println("C");}}
class main{
    public static void main(String[] args){
        C d = new C();
        d.disC();
        d.disA();}}
```

output :-

C
A

Multiple :-

```
class A {
    int a;
    A(){
        a = 5;}
    void Display A(){
        System.out.println(a);}}

interface B {
    int b = 10;
    void display B();{

class C extends A implements B{
    int c;
    C(){ c = 15;}
public void display B(){
    System.out.println(b);}
public void dis play c(){
    System.out.println(c);}}

class main{
    public static void main(String[] args){
        C d = new C();
        d.display A();
        d.display B()
```

```
d.display();}}
```

output :-

```
5
10
15
```

```
class C extends B{
    void disc(){
    System.out.println();}}
```

Exception Handling :-

class not found exception.

```
public class Main {
    public static void Main(String[] args){
      try {
          class.forname("A");}
      catch (classNotFoundException e){
          e.printStackTrace();}}
          }
```

Arithmetic exception :-

```
public class main{
    public static void main(String[] args){
    try {
        int a = 10/0;
        System.out.println("code in try");
        }
```

```
catch ( ArithmeticException e){
    System.out.println(" Error ");}}
```

Array Index out Of Bound Exception:-

```
class Main{
    public static void main(String[] args) {
    try {
        int a[]={ 1,2,3};
        system.out.println(a[4]);}
    catch (ArrayIndexOutOfBoundException e){
        System.out.println (" +.e.getmessage());}}
```

No Souch method:-

```
class Main{
    public static void main(String[] args){
    try {
        MethodThatDoesNotExist();}
    catch (NoSuchMethodException e){
        System.out.println(" caught NO Such method
                Exception: " + e.getMessage());}}}
```

Illegal Argument Exception:

```
class Main{
        int age;
        Public void Age (int age){
```

```
if (age < 18){
    thrown new IllegalArgumentException.
        ("Age must be greater than 18");}

else {
        the.age = age
        System.out.println("age =" + age);
        }
        }
public static void main (String [] args){
        person p = new person();
        try {
            person.setage(15);};
        catch (IllgalArgumentException one)}
```