1. **Write a Java program to create and throw custom exceptions?**

```java
class TestException extends RuntimeException

{

}

class CAT

{

public static void main(String[] args)

{

throw new TestException ();

}

}
```

2. **Write a program to demonstrate method overriding?**

```java
class Card

{

public void makePayment(){

System.out.println("Payment done");

}

}

class DebitCard extends Card

{

public void makePayment(){ {

System.out.println("Payment done using debit card");

}

}

class CreditCard extends Card

{

public void makePayment(){
```

```java
System.out.println("Payment done using Credit Card");

}

}

class swipMachine

{

public void swipCard(Card c){

c.makePayment();

}

}

class Driver

{

public static void main(String[] args){

DebitCard    c1=new    DebitCard();

CreditCard   c2=new   CreditCard();

swipMachine m=new swipMachine();

m. swipMachine(c1); //payment done using debitcard

m. swipMachine(c2);// payment done using creditcard

}

}
```

**3. Write a Java program that sorts HashMap by value.?**

```java
Import java.util.HashMap;

Import java.util.set;

class c

{

public static void main(String[] args)

{

HashMap h1=new HashMap();

h1.put(1,"Saranya");
```

```java
h1.put(2,"Priya");

h1.put(3,"Vishnu"); set

s=h1.keySet();

for(object i:s) {

System.out.println(i);

}

}

}
```

## 4. Write a Java Program for Fibonacci series?

```java
class Fibonacci

{

public static void power(int x)

{

int f1=0; int f2=1;

int f3=0;

while(f1<=x)

System.out.println(f1)

;

f3=f1+f2; f1=f2;

f2=f3;

}

}

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter value");

int a=sc.nextInt(); power(a);
```

```
        }

        }

        }
```

## 5. How to check Odd and Even Number in java.

```java
class L

{

public static void main(String[] args)

{

int i=1;

while(i<=10

)

{

if (i%2==0)

{

System.out.println(i+"is an even number");

} else

{

System.out.println(i+"is an even number");

}

i++;

}

}

}
```

## 6. Check no is Armstrong or not in java Program?

```java
class R

{

public static int countDigit(int n)

{
```

```java
int count=0;
while(n>0)
{
n=n/10;
count++;
}
return count;
}
public static void main(String[] args)
{
int num=375;
int num1=num;
int count=countDigit(num);
int ld; int p;
int sum=0;
while(num>0
)
{
ld=num%10;
p=power(ld,count);
sum=sum+p; num=num/10;
}
if(num1==sum)
{
System.out.println("Armstrong number");
} else
{
```

```java
System.out.println(" Not an Armstrong number");

}

}

public static int power(int x,int n)

{

int p=1;

for(int i=1;i<n;i++)

{

P=p*x;

}

return p;

}
```