Q1. Explain User defined Function/Method in java?

Syntax:

public return type methodName(Parameter){

//definition , function body

}

Type1:

Taking Nothing Returning Nothing

Example:

public void add(){

//declare variable

//input

//perform operation

//output

}

Type2:

Taking Something and returning Nothing

Example:

```
Access Specifier return type methodName(Parameter1, Parameter 2){
//operation
//print result
}
public void add(int a,int b){
int x=a+b;
sop(c);
}
```

Type 3**: Returning Something and Taking Nothing**

Syntax:

```
Access Specifier return type methodName(){
```

```
//input
//operation
//return result
}
```

Type4: Taking Something and Returning Something

Example:

```
Access Specifier return Type MethodName(Parameter){
//perform operation
//return result
}

public int add(int a,int b){
int c;
c=a+b;
return c;
```

```
}
```

```
//Example: Taking Nothing and Returning Nothing
import java.util.Scanner;
class A1{

    public void add(){
    //step1: Declare Variable
    int a,b,c;
    //step2: Input
    System.out.println("=======> Add Function is Called<=========");
    Scanner kb=new Scanner(System.in);
    System.out.println("Enter Value of A : ");
    a=kb.nextInt();
    System.out.println("Enter Value of B : ");
    b=kb.nextInt();
```

```
//Step3: Perform Operation
c=a+b;
//step4: Print Result
System.out.println("Addition : "+c);



}
public static void main(String args[]){
A1 obj=new A1();
//How to access method of class
//objectName.methodName()

obj.add();
obj.add();
obj.add();
obj.add();
obj.add();
```

```
    }

}
```

Q2. Write a java Program to check given number is even or not using function [Taking Nothing Returning Nothing]?

```
public void evenOrOdd(){
//input
//operation
//result print
}
```

Q2. Write a java Program to check given number is Prime or not using function(Taking Nothing Returning Nothing)

```
public void checkPrime(){
//variable
//input
//check
//output
}
```

Q1. Explain Functions/ Methods in java Programming?

Ans: In java function/method are block of code and it is define to perform some specific task.
It is executed when it is called

Once we define a function/ method we can call any number of times via object

When we call a function n number of times same function definition will execute

Types of function on the basis of return type, parameter
1. Taking Nothing returning nothing
Example

```
void add(){
//declare local variable
//Take input
//perform operation
//print result
}
```

2. Taking Something returning nothing
Example
```
void add(int a,int b){//formal argument
//perform operation
//print result
}
```

3. Taking Nothing returning Something
Example
```
int add(){
//declare variable
//take input
//perform operation
//return result
}
```

4. Taking Something returning Something
Example
```
int add(int a,int b){
//perform operation
//return result
}
```

Note:
1. In java Method Name should be written in camelCase()

2. Method name should be start with verb
3. Method must be called directly or indirectly.
4. If we define any method in java it does not mean it will called automatically(It is required to called explicitly)
5. The recommended access specifier for the method is public
6. If we don’t specify any access specifier then default access specifier is default(no keyword), it means it can be access inside class or inside package
7. In main method if our method is non static then first we should create an object of the class and call via object

Q1. Write a java Program to print sum of two number with function [Taking Nothing Returning Nothing]?

```
//Taking Nothing and returning Nothing
import java.util.Scanner;
class Test{

    void add(){
    System.out.println("====>Enter Addition Function====");
    //declare variable
```

```
    int a,b,c;
    //take input
    Scanner sk=new Scanner(System.in);
    System.out.println("Enter Value of A : ");
    a=sk.nextInt();
    System.out.println("Enter Value of B : ");
    b=sk.nextInt();

    //perform operation
    c=a+b;
    //print result
    System.out.println("Addition is : "+c);
    System.out.println("====>Exit Addition
Function====");
    }

    public static void main(String args[]){
    System.out.println("====>Enter Main
Function====");
    Test t=new Test();
    t.add();
    System.out.println("Back To Main method");
    t.add();
    System.out.println("====>Exit Main
Function====");
    }
```

```
}
```

Q1. Write a java Program to print sum of two numbers using function[Taking Something and returning Nothing]?

```
void add(int x,int y){//formal argument
//To perform Operation
//Print Result
}
```

Example

```
import java.util.Scanner;
class A1{

    void add(int a,int b){//formal Argument
    //perform operation
    int c=a+b;
    //print result
    System.out.println("Addition : "+c);
     }

    public static void main(String args[]){
    Scanner sk=new Scanner(System.in);
    System.out.println("Enter Number 1 ");
    int n1=sk.nextInt();
    System.out.println("Enter Number 2 ");
    int n2=sk.nextInt();
```

```
    A1 obj=new A1();
    obj.add(n1,n2);//Acutal Argument
    }

}
```

Q2. Write a Java Program to print sum of two numbers using function[Taking Nothing Returning Something]

Example:

```
int add(){
//declare the variable
//take input
//perform operation
//return result
}
```

```
import java.util.Scanner;
class A1{

    int add(){
    //declare the variable
    int n1,n2;
    //take input
    Scanner sk=new Scanner(System.in);
```

```
    System.out.println("Enter Number 1 ");
    n1=sk.nextInt();
    System.out.println("Enter Number 2 ");
    n2=sk.nextInt();

    //perform operation
    int c=n1+n2;
    //print result

    return c;
     }

    public static void main(String args[]){
    A1 obj=new A1();
    int r=obj.add();
    System.out.println("Addition : "+r);
    }

}
```

Q3. Write a java Program to print sum of two numbers using function[Taking something and returning something]

Example

```
int add(int a,int b){
//perform operation
//return result
}

import java.util.Scanner;
class A1{

    int add(int n1,int n2){//formal argument
    //perform operaton
    int c=n1+n2;
    //return result
    return c;
     }

    public static void main(String args[]){
    A1 obj=new A1();
    int n1,n2;
    //take input
    Scanner sk=new Scanner(System.in);
    System.out.println("Enter Number 1 ");
    n1=sk.nextInt();
    System.out.println("Enter Number 2 ");
    n2=sk.nextInt();
```

```
    //perform operation

    int r=obj.add(n1,n2);
    System.out.println("Addition : "+r);
    }

}
```

Homework(write on notebook)

1. Write a java program to check given number is Palindrome Number or not using function

2. Write a java Program to check given number is Even or Odd Using Function

3. Write a java Program to check given number is Strong number or not?

145

1!+4!+5!

1+24+120=145

4. Write a java Program to check given String is anagram or not?

Example1:

Enter String 1: listen

Enter String 2: silent

5. Write a java Program to check given String is panagram or not?

Enter Any String: abcdefghijklmnopqrstuvwxyz
This is panagram string

Enter Any String: xyz
This is not a panagram String