Practical-2

✚ Practical -2

Running Java code on android studio and Demonstrating Activity Lifecycle

1. Write down steps to run java program in android studio

- ➢ From the project folder select java folder
- ➢ Right click on java folder and select new then java class.
- ➢ Provide a class name and press ok.
- ➢ Right the java code.
- ➢ Right click on java file and select run "Print. Main()" with coverage**.**

2. Write a java program to print 1 to 10 using for loop.

Program1.java

package com.example.firstapp;

public class program1 {

   public static void main(String[] args) {

     for (int i = 1; i <= 10; ++i) {

        System.out.println(i);
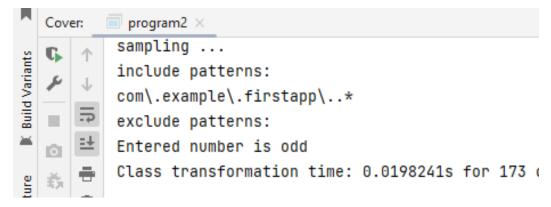
     }

   }

}

Output:

3. Write a java program to check whether the entered number is odd or even.

Program2.java

```
package com.example.firstapp;

public class program2 {
    public static void main(String[] args) {
        int num = 5;
        if (num % 2 == 0)
            System.out.println("Entered number is even");
        else
            System.out.println("Entered number is odd");
    }
}
```
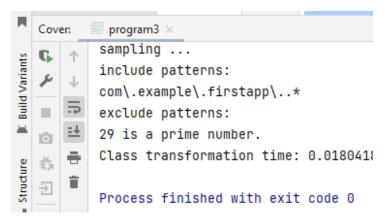
Output:

4. Write a java program to check whether the entered number is prime or not.

Program3.java

```
package com.example.firstapp;
public class program3 {
    public static void main(String[] args) {
        int num = 29;
        boolean isprimenum = true;
        for (int i = 2; i <= num / 2; ++i) {
            if (num % i == 0) {
                isprimenum = false;
                break;
            }
        }
        if (isprimenum)
            System.out.println(num + " is a prime number.");
        else
            System.out.println(num + " is not a prime number.");
```

```
    }
}
```

Output:

5. Write a Java Program to Find Square Root of a Number Without sqrt Method.

Program4.java

```java
package com.example.firstapp;

public class program4 {
    public static void main(String[] args) {
        int number = 64;
        double temp;

        double squareRoot = number / 2;

        do {
            temp = squareRoot;
            squareRoot = (temp + (number / temp)) / 2;
        } while ((temp - squareRoot) != 0);

        System.out.println("Square Root of "+ number+ " is: "+squareRoot);
    }
}
```
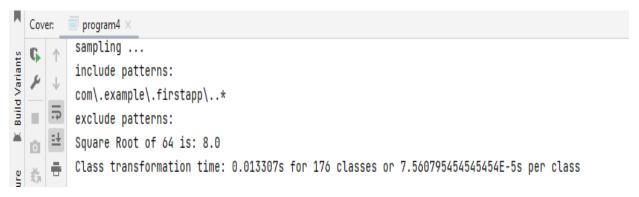
Output:

```
Cover:    program4 ×
sampling ...
include patterns:
com\.example\.firstapp\..*
exclude patterns:
Square Root of 64 is: 8.0
Class transformation time: 0.013307s for 176 classes or 7.560795454545454E-5s per class
```

6. Write a Java Program to Display Even Numbers From 1 to 100.

Program5.java

```java
package com.example.firstapp;
public class program5 {
    public static void main(String[] args) {
        int limit = 100;
        System.out.println("Printing Even numbers between 1 and " + limit);
        for(int i=1; i <= limit; i++){
            if( i % 2 == 0){
                System.out.print(i + " ");
            }
        }
        System.out.println();
    }
}
```

Output:

```
Printing Even numbers between 1 and 100

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

Class transformation time: 0.0158707s for 185 classes or 8.578756756756758E-5s per class
```

7. Write a Java Program to Display Alternate Prime Numbers.

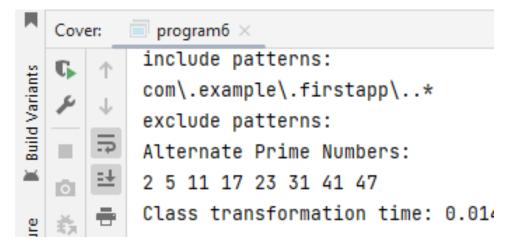### Program6.java

```java
package com.example.firstapp;
public class program6 {
    public static boolean isPrime(int number) {
        if (number <= 1) {
            return false;
        }
```

```java
    for (int i = 2; i <= Math.sqrt(number); i++) {
      if (number % i == 0) {
        return false;
      }
    }
    return true;
  }
  public static void main(String[] args) {
    System.out.println("Alternate Prime Numbers:");
    int count = 0;
    for (int i = 1; i <= 50; i++) {
      if (isPrime(i) && count % 2 == 0) {
        System.out.print(i + " ");
      }
      if (isPrime(i)) {
        count++;
      }}
    System.out.println();
  }
}
```

Output:

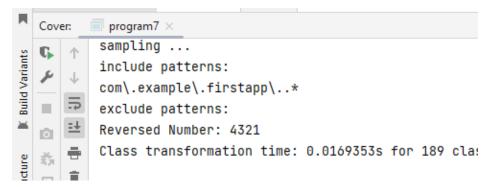## 8. Write a Java Program to Reverse a Number.

Program7.java

```java
package com.example.firstapp;

public class program7 {
  public static void main(String[] args) {
    int num = 1234, reversed = 0;
    while(num != 0) {
      int digit = num % 10;
      reversed = reversed * 10 + digit;
```

```
        num /= 10;
    }
    System.out.println("Reversed Number: " + reversed);
  }
}
```
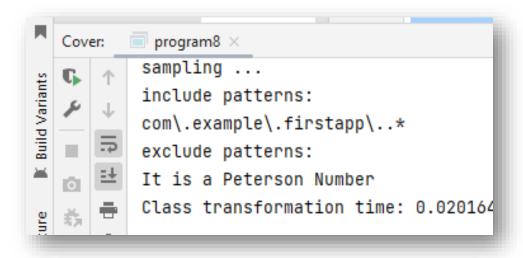
Output:

9. Write a Java Program to check whether the entered number is a Peterson Number or not.
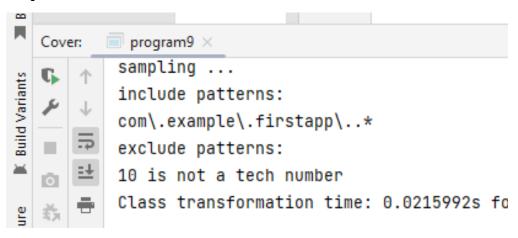
Program8.java

```java
package com.example.firstapp;

public class program8 {
  public static void main(String[] args) {
    int num = 145;
    int sum = 0;
    int temp = num;
    while (temp > 0) {
      int rem = temp % 10;
      int fact = 1;
      for (int i = 1; i <= rem; i++) {
        fact = fact * i;
      }
      sum = sum + fact;
      temp = temp / 10;
    }
    if (sum == num) {
      System.out.println("It is a Peterson Number");
    } else {
      System.out.println("It is not a Peterson Number");
    }
  }
}
```

Output:

10. Write a Java Program to check whether the entered number is a Tech Number or not.

```java
package com.example.firstapp;

public class program9 {
    public static void main(String[] args) {
        int num = 10;
        int sum = 0;
        int prod = 1;
        int temp = num;
        while (num > 0) {
            int rem = num % 10;
            sum = sum + rem;
            prod = prod * rem;
            num = num / 10;
        }
        if (sum == prod) {
            System.out.println(temp + " is a tech number");
        } else {
            System.out.println(temp + " is not a tech number");
        }
    }
}
```

Output:

```
Cover:     program9 ×
sampling ...
include patterns:
com\.example\.firstapp\..*
exclude patterns:
10 is not a tech number
Class transformation time: 0.0215992s fo
```

Demonstrating Activity Life Cycle

MainActivity.java

```java
package com.example.firstapp;
import android.util.Log;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle","onCreate invoked");
    }
    @Override
    protected void onStart() {
        super.onStart();
        Log.d("lifecycle","onStart invoked");
    }
    @Override
    protected void onResume() {
        super.onResume();
        Log.d("lifecycle","onResume invoked");
    }
    @Override
    protected void onPause() {
        super.onPause();
        Log.d("lifecycle","onPause invoked");
    }
    @Override
    protected void onStop() {
        super.onStop();
        Log.d("lifecycle","onStop invoked");
    }
    @Override
```

```
    protected void onRestart() {
        super.onRestart();
        Log.d("lifecycle","onRestart invoked");
    }
    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d("lifecycle","onDestroy invoked");
    }
}
```

Output:

Now you can see on the logcat:

on Create, on Start and on Resume methods are invoked.

```
--------- beginning of main
--------- beginning of system
2023-07-17 23:44:42.650  5737-5737  studio.deploy          installer                     E  Could not get package user id: /
2023-07-17 23:44:42.716  5737-5737  studio.deploy          installer                     E  Could not find apks for package:
2023-07-17 23:44:55.636  5882-5882  zygote                 com.example.firstapp          I  Late-enabling -Xcheck:jni
2023-07-17 23:44:57.194  5882-5882  zygote                 com.example.firstapp          W  Unexpected CPU variant for X86 u
2023-07-17 23:44:59.547  5882-5882  lifecycle              com.example.firstapp          D  onCreate invoked
2023-07-17 23:44:59.589  5882-5882  lifecycle              com.example.firstapp          D  onStart invoked
2023-07-17 23:44:59.604  5882-5882  lifecycle              com.example.firstapp          D  onResume invoked
2023-07-17 23:44:59.714  5882-5924  OpenGLRenderer         com.example.firstapp          D  HWUI GL Pipeline
2023-07-17 23:44:59.919  5882-5924  <no-tag>               com.example.firstapp          D  HostConnection::get() New Host C
```

Now click on the HOME Button. You will see onPause method is invoked. After a while, you will see onStop method is invoked.

```
2023-07-17 23:46:37.684  6073-6106  EGL_emulation          com.example.firstapp          D  eglMakeCurrent: 0x9c0bdbe0: ver 3 1 (tinfo 0x9c012300)
2023-07-17 23:46:38.193  6073-6073  Choreographer          com.example.firstapp          I  Skipped 77 frames!  The application may be doing too m
2023-07-17 23:49:33.168  6073-6073  lifecycle              com.example.firstapp          D  onPause invoked
2023-07-17 23:49:33.286  6073-6106  EGL_emulation          com.example.firstapp          D  eglMakeCurrent: 0x9c0bdbe0: ver 3 1 (tinfo 0x9c012300)
2023-07-17 23:49:33.300  6073-6073  lifecycle              com.example.firstapp          D  onStop invoked
```

Now see on the emulator. It is on the home. Now click on the Center button to launch the app again.

```
2023-07-17 23:51:17.900  6073-6073  lifecycle              com.example.firstapp          D  onRestart invoked
2023-07-17 23:51:17.906  6073-6073  lifecycle              com.example.firstapp          D  onStart invoked
2023-07-17 23:51:17.910  6073-6073  lifecycle              com.example.firstapp          D  onResume invoked
2023-07-17 23:51:18.245  6073-6106  EGL_emulation          com.example.firstapp          D  eglMakeCurrent: 0x9c0bdbe0: ver
```