TUGAS

PEMROGRAMAN MOBILE

JOBSHEET 3

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PROGRAM STUDI SISTEM INFORMASI BISNIS

JURUSAN TEKNOLOGI INFORMASI

POLITEKNIK NEGERI MALANG

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Link Github : https://github.com/kartika3juli15/week3.git

A. NESTED LOOP

```dart
Run | Debug | Profile
void main() {
  // membuat pola segitiga
  for (int i = 1; i <= 5; i++) {
    String baris = '';
    for (int j = 1; j <= i; j++) {
      baris += '*';
    }
    print(baris);
  }

  print('');

  // membuat pola segitiga terbalik
  for (int i = 5; i >= 1; i--) {
    String baris = '';
    for (int j = 1; j <= i; j++) {
      baris += '*';
    }
    print(baris);
  }
}
```

```
PS F:\dart\week3> dart run bin/nestedLoop.dart
*
**
***
****
*****

*****
****
***
**
*
PS F:\dart\week3>
```

B. CALCULATOR BMI

```dart
void main() {
  List<Map<String, dynamic>> riwayat = [];

  // Simulasi beberapa input
  hitungBMI(170, 65, riwayat);
  hitungBMI(165, 75, riwayat);
  hitungBMI(180, 85, riwayat);

  // Tampilkan riwayat menggunakan perulangan
  tampilkanRiwayat(riwayat);
}

void hitungBMI(
  double tinggiCm,
  double beratKg,
  List<Map<String, dynamic>> riwayat,
) {
  // Konversi tinggi dari cm ke m
  double tinggiM = tinggiCm / 100;

  // Hitung BMI
  double bmi = beratKg / (tinggiM * tinggiM);

  // Tentukan kategori menggunakan percabangan
  String kategori;
  if (bmi < 18.5) {
    kategori = "Kurus";
  } else if (bmi < 25) {
    kategori = "Normal";
  } else if (bmi < 30) {
    kategori = "Gemuk";
  } else {
    kategori = "Obesitas";
  }

  // Simpan hasil ke riwayat
  riwayat.add({
    'tinggi': tinggiCm,
    'berat': beratKg,
    'bmi': bmi,
    'kategori': kategori,
  });
}

void tampilkanRiwayat(List<Map<String, dynamic>> riwayat) {
  for (var data in riwayat) {
    print(
      "Tinggi: ${data['tinggi']} cm, "
      "Berat: ${data['berat']} kg, "
      "BMI: ${data['bmi'].toStringAsFixed(2)}, "
      "Kategori: ${data['kategori']}",
    );
  }
}
```

```
PS F:\dart\week3> dart run bin/calculatorBMI.dart
Tinggi: 170.0 cm, Berat: 65.0 kg, BMI: 22.49, Kategori: Normal
Tinggi: 165.0 cm, Berat: 75.0 kg, BMI: 27.55, Kategori: Gemuk
Tinggi: 180.0 cm, Berat: 85.0 kg, BMI: 26.23, Kategori: Gemuk
PS F:\dart\week3>
```

C. PUSH GITHUB

1. Buat branch baru

```
PS F:\dart\week3> git checkout -b input-validation
Switched to a new branch 'input-validation'
PS F:\dart\week3>
```

2. Kemudian add . dan commit kemudian isi dengan pesan commit nya

```
PS F:\dart\week3> git add .
PS F:\dart\week3> git commit -m "ini branch saya untuk BMI"
[input-validation f25b266] ini branch saya untuk BMI
 1 file changed, 54 insertions(+)
 create mode 100644 lib/calculatorBMI.dart
```

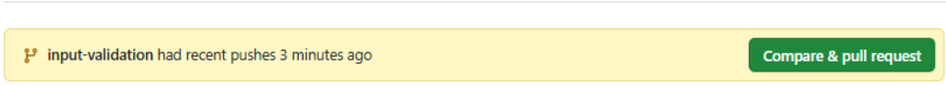
3. Kemudian push

```
PS F:\dart\week3> git push -u origin input-validation
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 852 bytes | 426.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'input-validation' on GitHub by visiting:
remote:      https://github.com/kartika3juli15/week3/pull/new/input-validation
remote:
To https://github.com/kartika3juli15/week3.git
 * [new branch]      input-validation -> input-validation
branch 'input-validation' set up to track 'origin/input-validation'.
PS F:\dart\week3>
```

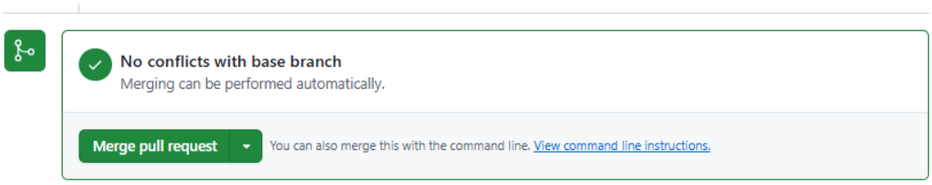
4. Setelah dari branch kemudian pindah ke main dengan kode berikut

```
PS F:\dart\week3> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
PS F:\dart\week3>
```

5. Kemudian check di github dan click compare and pull request



6. jika tidak ada conflict maka dii merge pull



TUGAS INDIVIDU

1. Buat program Dart sederhana yang menggunakan kombinasi percabangan dan perulangan untuk menyelesaikan masalah. Contoh: program untuk menghitung faktorial, cek bilangan prima, atau game tebak angka.

   Kode :

```dart
import 'dart:io';
import 'dart:math';

void mulaiTebakAngka() {
  var random = Random();
  int angkaRahasia = random.nextInt(10) + 1;
  int tebakan;
  int kesempatan = 3;

  print('=== Permainan Tebak Angka ===');
  print('Saya sudah memilih angka antara 1 sampai 10.');
  print('Kamu punya $kesempatan kesempatan untuk menebak!\n');

  for (int i = 1; i <= kesempatan; i++) {
    stdout.write('Tebakan ke-$i: ');
    tebakan = int.parse(stdin.readLineSync()!);

    if (tebakan == angkaRahasia) {
      print('🎉 Selamat! Tebakan kamu benar!');
      return;
    } else if (tebakan < angkaRahasia) {
      print('Angka terlalu kecil!');
    } else {
      print('Angka terlalu besar!');
    }
  }

  print('\nKesempatan habis! Angka yang benar adalah $angkaRahasia.');
}
```

```dart
import 'tebak_angka.dart';

Run | Debug | Profile
void main() {
  mulaiTebakAngka();
}
```

   Hasil :

```
PS F:\dart\week3> dart run lib/main.dart
=== Permainan Tebak Angka ===
Saya sudah memilih angka antara 1 sampai 10.
Kamu punya 3 kesempatan untuk menebak!

Tebakan ke-1: 5
Angka terlalu besar!
Tebakan ke-2: 3
Angka terlalu kecil!
Tebakan ke-3: 2
Angka terlalu kecil!

Kesempatan habis! Angka yang benar adalah 4.
PS F:\dart\week3>
```

a. Buat git branch dengan nama feature/add-mainentrypoint

```
PS F:\dart\week3> git checkout -b feature/add-mainentrypoint
Switched to a new branch 'feature/add-mainentrypoint'
```

b. Kemudian lakukan git add dan commit

```
PS F:\dart\week3> git add lib/tebak_angka.dart
PS F:\dart\week3> git commit -m "game tebak angka entrypoint"
[feature/add-mainentrypoint a9e0dea] game tebak angka entrypoint
 1 file changed, 29 insertions(+)
 create mode 100644 lib/tebak_angka.dart
```

c. Kemudian git push

```
PS F:\dart\week3> git push -u origin feature/add-mainentrypoint
>>
Enumerating objects: 16, done.
Counting objects: 100% (16/16), done.
Delta compression using up to 4 threads
Compressing objects: 100% (12/12), done.
Writing objects: 100% (12/12), 1.66 KiB | 243.00 KiB/s, done.
Total 12 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
remote:
remote: Create a pull request for 'feature/add-mainentrypoint' on GitHub by visiting:
remote:      https://github.com/kartika3juli15/week3/pull/new/feature/add-mainentrypoint
remote:
To https://github.com/kartika3juli15/week3.git
 * [new branch]      feature/add-mainentrypoint -> feature/add-mainentrypoint
branch 'feature/add-mainentrypoint' set up to track 'origin/feature/add-mainentrypoint'.
```

d. Kemudian beralih ke main

```
PS F:\dart\week3> git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)
PS F:\dart\week3>
```

e. Buatlah 3 file lagi dan lakukan git commit dan push seperti diatas

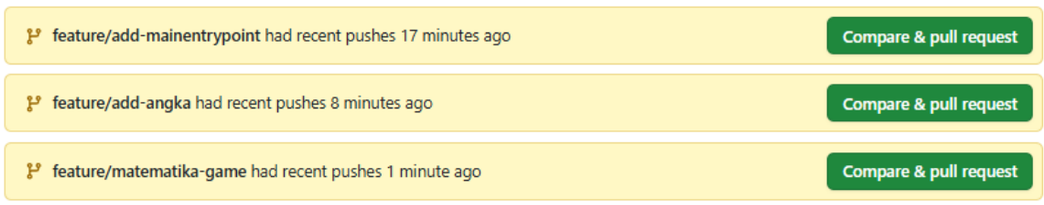
1. Input_angka

```
PS F:\dart\week3> git checkout -b feature/add-angka
Switched to a new branch 'feature/add-angka'
PS F:\dart\week3> git add bin/input_angka.dart
PS F:\dart\week3> git commit -m "input angka game"
[feature/add-angka f4f6570] input angka game
 1 file changed, 22 insertions(+)
 create mode 100644 bin/input_angka.dart
PS F:\dart\week3> git push -u origin feature/add-angka
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 598 bytes | 199.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'feature/add-angka' on GitHub by visiting:
remote:      https://github.com/kartika3juli15/week3/pull/new/feature/add-angka
remote:
To https://github.com/kartika3juli15/week3.git
 * [new branch]      feature/add-angka -> feature/add-angka
branch 'feature/add-angka' set up to track 'origin/feature/add-angka'.
PS F:\dart\week3>
```

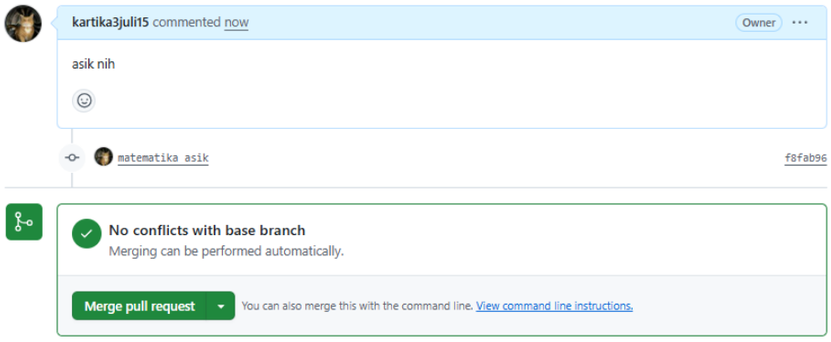
2. Matematika

```
PS F:\dart\week3> git checkout -b feature/matematika-game
Switched to a new branch 'feature/matematika-game'
PS F:\dart\week3> git add bin/matematika.dart
PS F:\dart\week3> git commit -m "matematika asik"
[feature/matematika-game f8fab96] matematika asik
 1 file changed, 50 insertions(+)
 create mode 100644 bin/matematika.dart
PS F:\dart\week3> git push -u origin feature/matematika-game
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 997 bytes | 332.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'feature/matematika-game' on GitHub by visiting:
remote:      https://github.com/kartika3juli15/week3/pull/new/feature/matematika-game
remote:
To https://github.com/kartika3juli15/week3.git
 * [new branch]      feature/matematika-game -> feature/matematika-game
branch 'feature/matematika-game' set up to track 'origin/feature/matematika-game'.
```

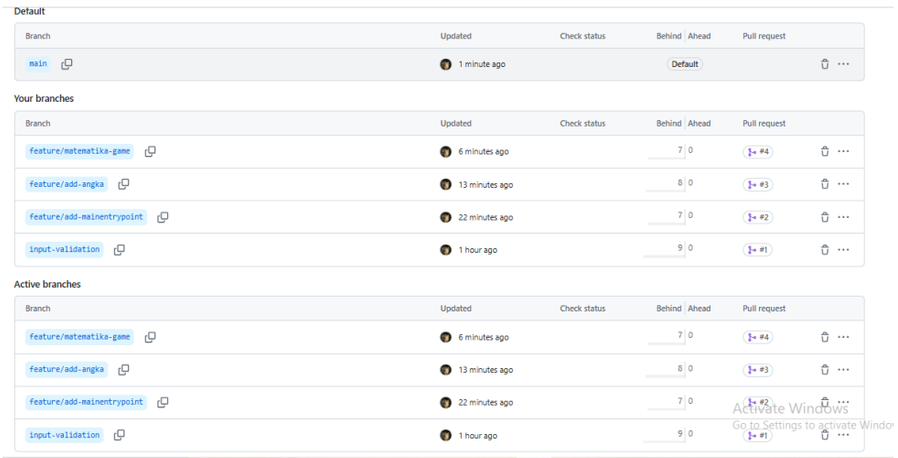
f. Lakukan pengecekan pada github kemudian lakukan compare and pull request



g. Kemudian lakukan semua merge pull request dan jika tidak ada conflict maka lanjutkan



h. Kemudian cek branch apakah aktifitas tadi sudah masuk



i. Kembali ke vscode dan lakukan sinkronisasi

```
PS F:\dart\week3> git pull origin main
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (16/16), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 8 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (8/8), 3.83 KiB | 118.00 KiB/s, done.
From https://github.com/kartika3juli15/week3
 * branch            main       -> FETCH_HEAD
   55f6d3b..aeaa2fe  main       -> origin/main
Updating 806f4bd..aeaa2fe
Fast-forward
 bin/input_angka.dart    |  22 +++++++++
 bin/matematika.dart     |  50 ++++++++++++++++++++
 lib/calculatorBMI.dart  |  54 ++++++++++++++++++++++
 lib/main.dart           | 121 +----------------------------------------------
 lib/tebak_angka.dart    |  29 ++++++++++++
 5 files changed, 157 insertions(+), 119 deletions(-)
 create mode 100644 bin/input_angka.dart
 create mode 100644 bin/matematika.dart
 create mode 100644 lib/calculatorBMI.dart
 create mode 100644 lib/tebak_angka.dart
```