GENERATION
TEKNIK INFORMATIKA

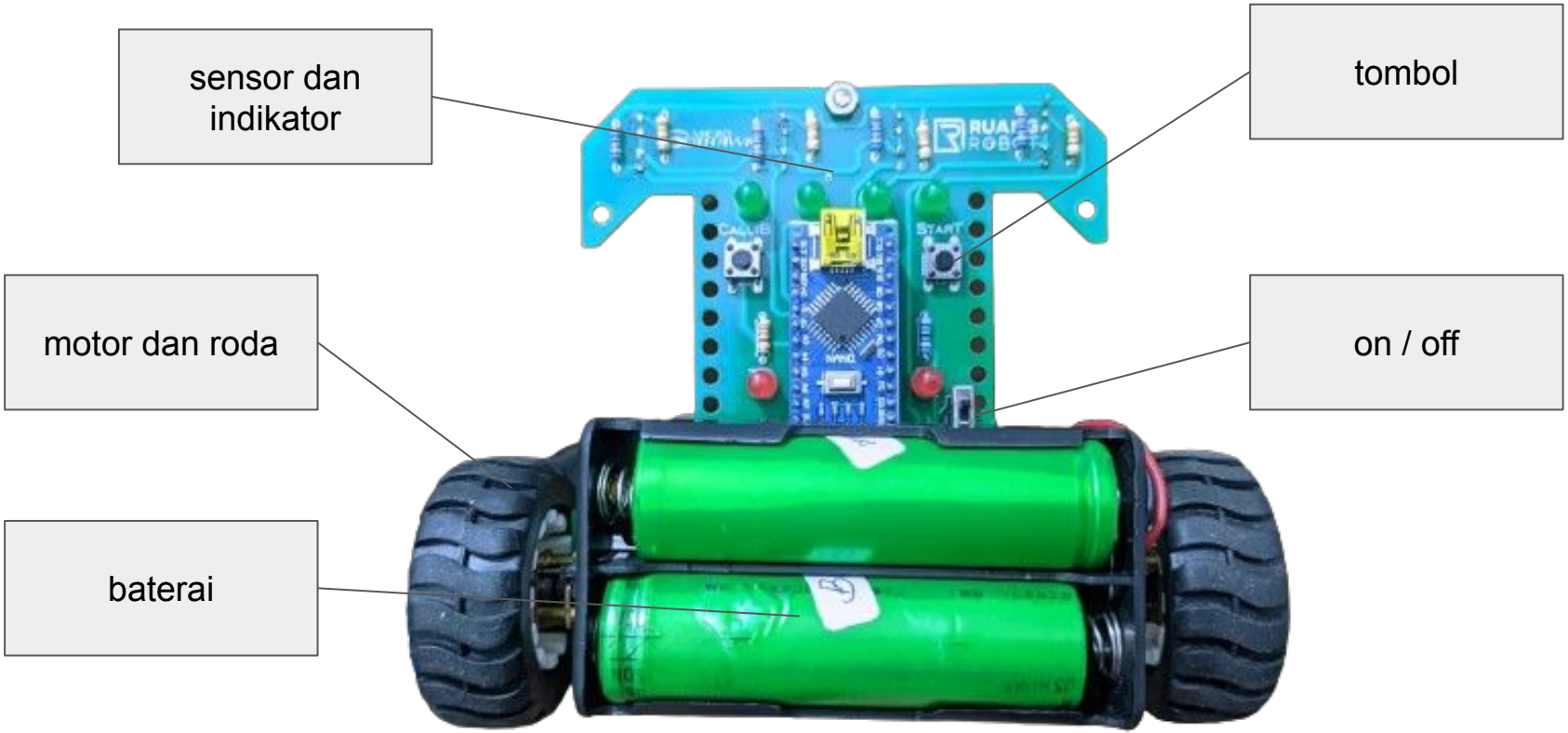
PELATIHAN LINE FOLLOWER ARDUINO DI SMP RAHMAT KOTA KEDIRI

Pengabdian Masyarakat
Prodi Teknik Informatika
Universitas Nusantara PGRI Kediri

Latar Belakang

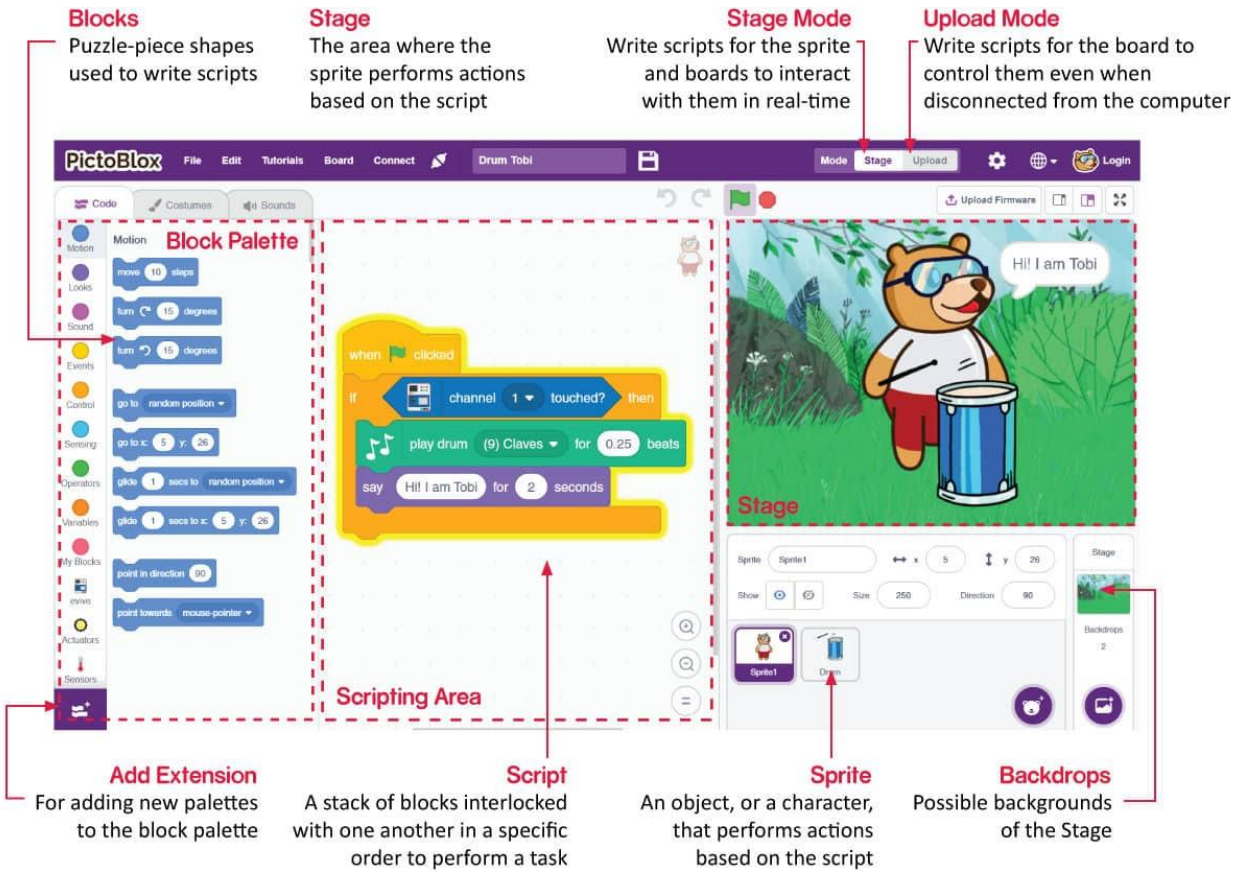
- Terdapat Materi Lintas Bidang di Mapel Informatika Kelas 7 dan 8 tingkat SMP
- Masih terbatasnya pemahaman konsep dan ketersediaan peralatan pada materi tersebut
- Maka dikembangkanlah modul ajar robotika line follower

Line Follower Arduino



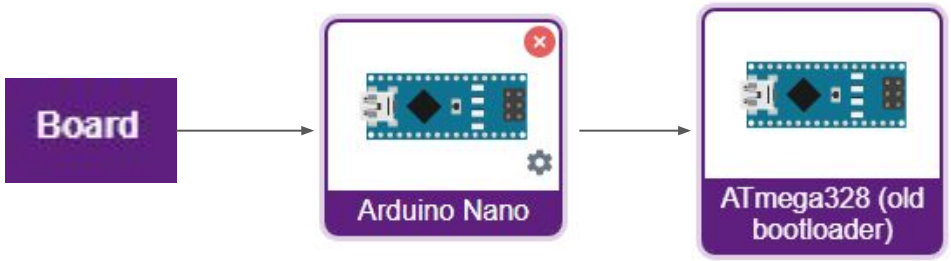
Aplikasi Pictoblox

- menggunkan konsep block programming
- terdapat materi dasarnya di buku informatika smp

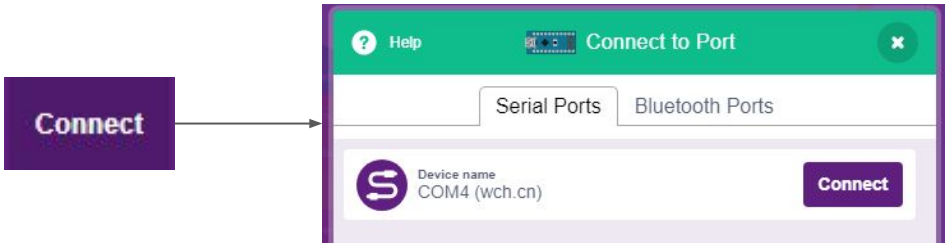


Koneksi ke Robot

1. Buka Pictoblox
2. Sambungkan Robot dengan Kabel USB
3. Pilih Board -> Arduino Nano -> ATMega328 (Old Botloader)



4. Setelah itu connect

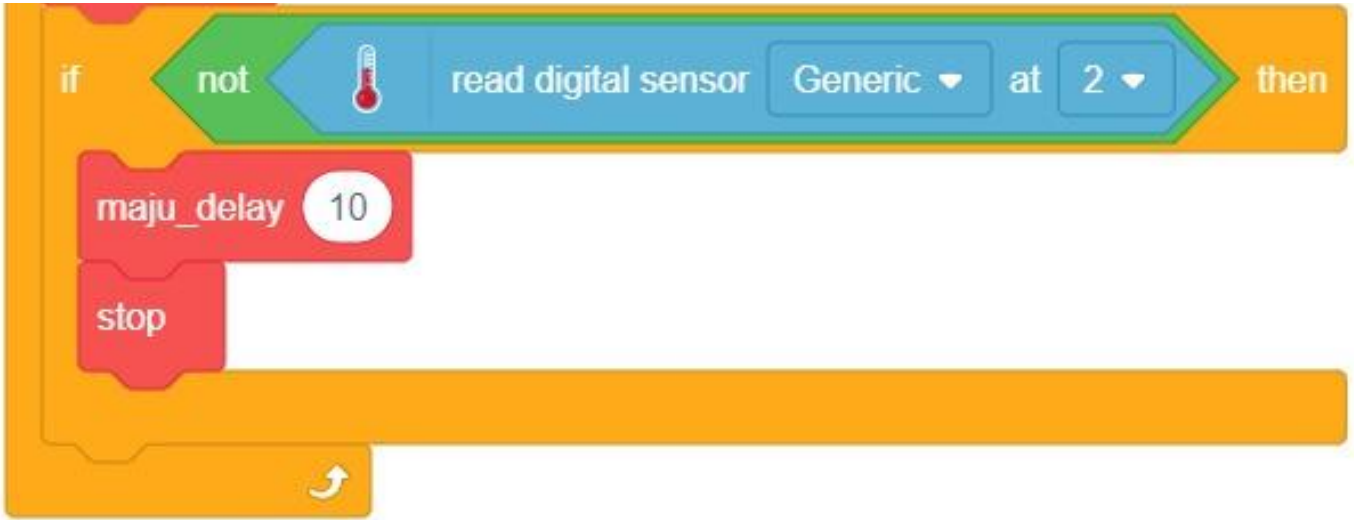


Struktur Program Utama

masukan program disini
abaikan blok program yang lain

Program Pertama (Basic Movement)

Robot berjalan maju selama waktu tertentu setelah itu berhenti



Program Kedua (Basic Movement)

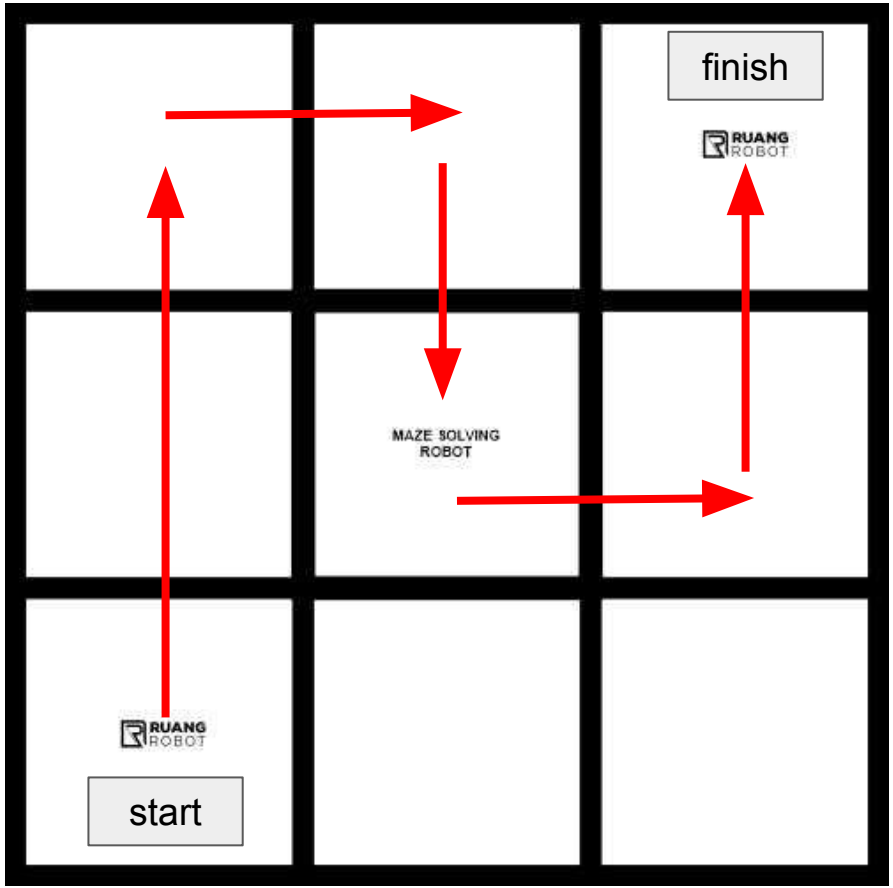
1. maju - belok kanan - maju - stop

2. maju - belok kiri - maju - mundur - stop

Tantangan 1

buat robot berjalan

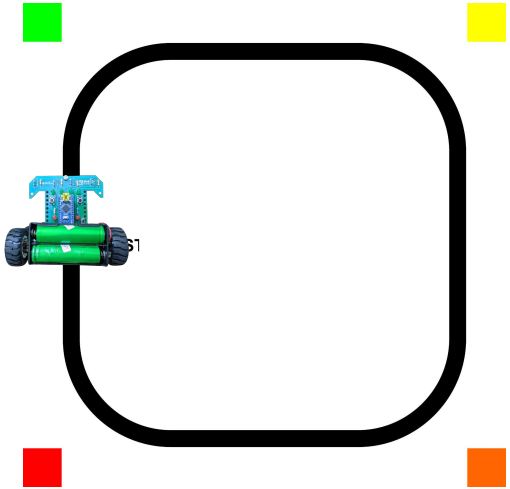
dengan jalur seperti berikut



Program Ketiga (Line Follower)

Terdapat 4 Sensor pada robot yang bisa digunakan untuk mendeteksi garis

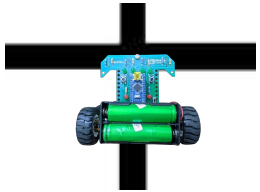
Robot dapat diprogram untuk mengikuti garis secara otomatis

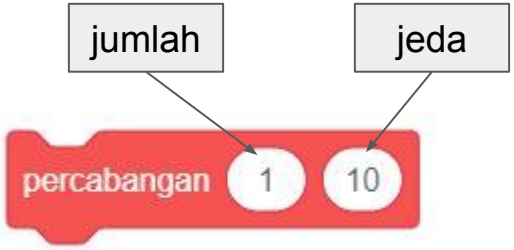


Program Keempat (Maze Solving)

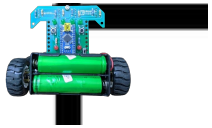
Selain mengikuti garis robot juga bisa menyelesaikan misi maze solving

1. percabangan

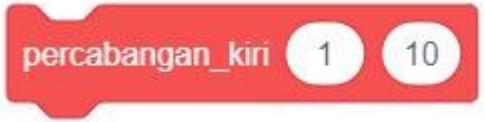




2. percabangan_kanan

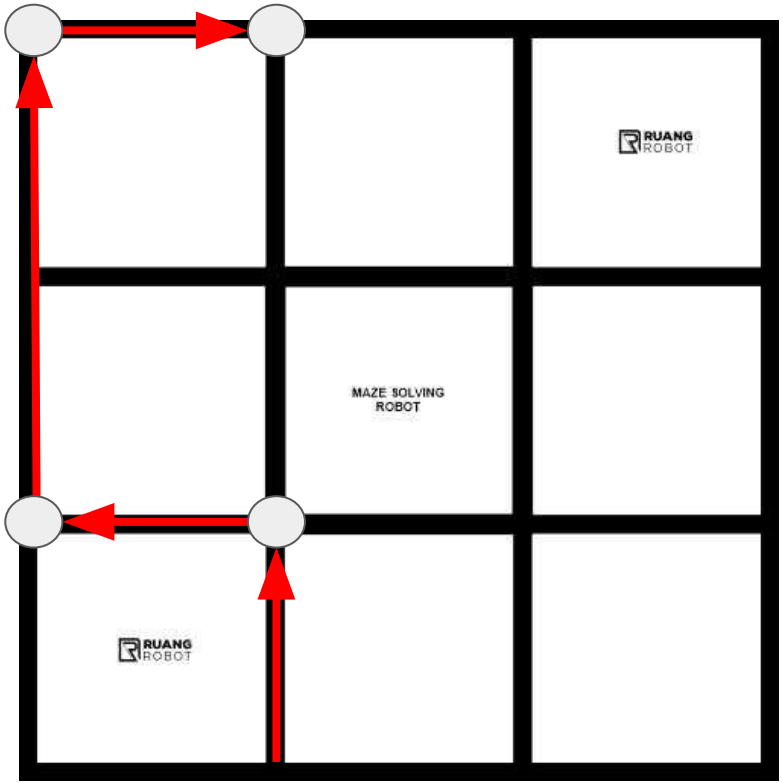


3. percabangan_kiri



Program Keempat (Maze Solving)

```
percabangan 1 10
kiri_delay 30
percabangan 1 10
kanan_delay 30
percabangan_kanan 2 10
kanan_delay 30
percabangan_kanan 1 10
```



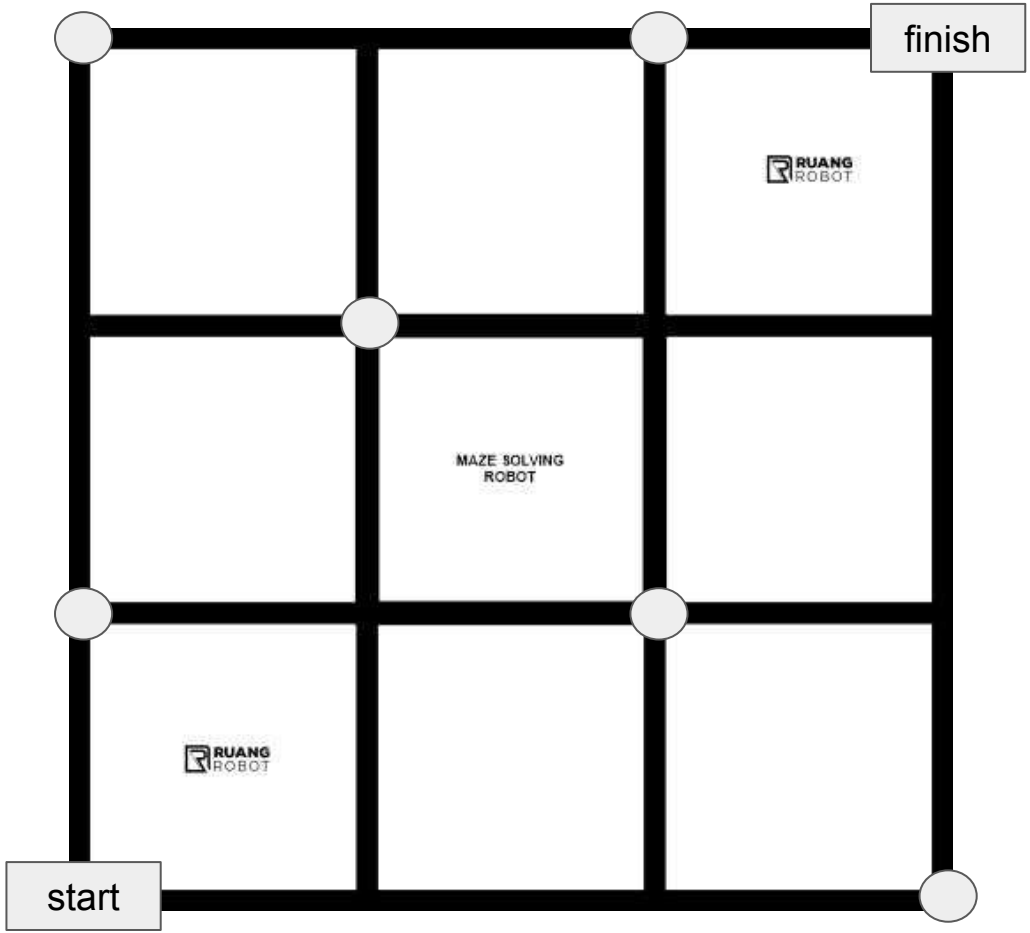
Tantangan 2

buat robot berjalan
dari start sampai finish
syaratnya harus ambil (melewati)
semua titik poin yang ada

**jalur yang dilewati bebas*

Nilai
robot keluar start +10
robot melewati titik +10 (total 6 titik)
robot masuk finish + 30

Total Nilai 100



TERIMAKASIH