5. Test with Router

Background

- Assume we have a main routing module as entry point, in main page it having nav between main/login/register
- Main page also have a button, once clicked, it would route to Register page.
- Having 2 sub component page Login & Register.

main.component.ts

```typescript
import { Component, OnInit } from '@angular/core';
import { Router } from '@angular/router';

@Component({
  selector: 'app-main',
  templateUrl: './main.component.html',
  styleUrls: ['./main.component.scss']
})
export class MainComponent implements OnInit {

  constructor(private router: Router) { }
  ngOnInit() {
  }
  gotoRegister() {
    this.router.navigateByUrl('/register');
  }
}
```

main.component.html

```html
<nav>
  <a routerLink="/">Main</a>
  <a routerLink="/login">Login</a>
  <a routerLink="/register">Register</a>
</nav>
<button (click)="gotoRegister()">Go To Register</button>
```

main-routing.module.ts

```typescript
import { NgModule } from '@angular/core';
import { Routes, RouterModule } from '@angular/router';
import { LoginComponent } from './login/login.component';
import { RegisterComponent } from './register/register.component';
import { MainComponent } from './main.component';

const routes: Routes = [
  {
    path: 'login',
    component: LoginComponent
  },
  {
    path: 'register',
    component: RegisterComponent
  },
  {
    path: '',
    component: MainComponent
  }
];

@NgModule({
  imports: [RouterModule.forChild(routes)],
  exports: [RouterModule]
})
export class MainRoutingModule { }
```

To test the button click

Keys

- const routerSpy = jasmine.createSpyObj('Router', ['navigateByUrl']);
- { provide: Router, useValue: routerSpy }
- expect(routerSpy.navigateByUrl).toHaveBeenCalledWith('/register');

```typescript
import { async, ComponentFixture, TestBed, fakeAsync, tick } from '@angular/core/testing';

import { MainComponent } from './main.component';
import { Router } from '@angular/router';

describe('MainComponent', () => {
  let component: MainComponent;
  let fixture: ComponentFixture<MainComponent>;
  const routerSpy = jasmine.createSpyObj('Router', ['navigateByUrl']);

  beforeEach(async(() => {
    TestBed.configureTestingModule({
      declarations: [MainComponent],
      providers: [
        { provide: Router, useValue: routerSpy }
      ]
    }).compileComponents();
  }));

  beforeEach(() => {
    fixture = TestBed.createComponent(MainComponent);
    component = fixture.componentInstance;
    fixture.detectChanges();
  });

  it('should create', () => {
    expect(component).toBeTruthy();
  });

  it('Test button go to register', async(() => {
    const button = fixture.debugElement.nativeElement.querySelector('button');
    button.click();
    expect(routerSpy.navigateByUrl).toHaveBeenCalled();
    expect(routerSpy.navigateByUrl).toHaveBeenCalledWith('/register');
  }));

});
```