

**Q1. Which testing tool is good for your project and why (write full description and give some example)**

Ans. There are some tools used for unit testing in Angular applications. These tools are categorised into three groups. They are:

**1. Mocha:**

Mocha is a JavaScript testing framework that runs on Node.js and on the browser. One of the Mocha's main strength is that it makes asynchronous testing easy.

**2. Siesta:**

Siesta is a unit testing and UI testing tool, written as a generic tool in JavaScript. It's able to test both Node.js processes and also web pages. Siesta supports all major browsers.

**3. Jasmine:**

Jasmine is a Behaviour Driven Development (BDD) testing framework. Among its advantages, the main ones are that it doesn't rely on other JavaScript frameworks. It also doesn't require DOM. One of the main goals of Jasmine is to provide an easy syntax, allowing you to write tests more easily. Jasmine is the default test framework used with Angular. It ships with Angular CLI by default.

**4. Karma:**

Karma is a test runner for JavaScript. Along with Jasmine, Karma is one of the default testing tools for Angular. It is designed to offer simple integration with tools like Jenkin's or Travis, allowing you to integrate it into your CI pipeline seamlessly.

## Examples:

1. 

```
describe('Hello World', () => { (1)
  it('says hello', () => { (1)
    expect(helloWorld()).toEqual('Hello world!');
  });
});
```
2. 

```
describe("simple test", function()
{
  beforeEach(function() {
  });

  afterEach(function() {
  });

  it ("a is a string", function(){
  })
})
```
3. 

```
it('should have defined component', () =>{
  expect(component).toBeDefined();
});
```

## **Q2 . Write five sample unit test cases in Karma or Jest.**

### **Ans. Example 1:**

```
beforeEach(async(() => {  
  TestBed.configureTestingModule({  
    declarations: [ AppComponent ],  
  }).compileComponents();  
}));
```

### **Example 2:**

```
it('should create the app', async(() => {  
  const fixture = TestBed.createComponent(AppComponent);  
  const app = fixture.debugElement.componentInstance;  
  expect(app).toBeTruthy();  
}));
```

### **Example 3:**

```
it('should have as title 'angular-unit-test'', async(() => {  
  const fixture = TestBed.createComponent(AppComponent);  
  const app = fixture.debugElement.componentInstance;  
  expect(app.title).toEqual('angular-unit-test');  
}));
```

### **Example 4:**

```
it('should render title in a h1 tag', async(() => {  
  const fixture = TestBed.createComponent(AppComponent);  
  fixture.detectChanges();  
  const compiled = fixture.debugElement.nativeElement;  
  expect(compiled.querySelector('h1').textContent).toContain('Welcome to  
angular-unit-test!');  
}));
```

### **Example 5:**

```
it('should create Quote component', () => {
```

```
    expect(component).toBeTruthy();  
  });
```