```typescript
// Personal Message
let personName: string = "Arij";
console.log(`Hello ${personName}, would you like to learn some Python today?`);

// Name Cases
let personName2: string = "Arij shah";
console.log(personName2.toLowerCase());
console.log(personName2.toUpperCase());
console.log(personName2.charAt(0).toUpperCase() + personName2.slice(1).toLowerCase());

// Famous Quote
let quote: string = "A person who never made a mistake never tried anything new.";
let author: string = "Albert Einstein";
console.log(`${author} once said, "${quote}"`);

// Famous Quote 2
let famous_person: string = "Albert Einstein";
let message: string = `${famous_person} once said, "${quote}"`;
console.log(message);

// Stripping Names
let personName3: string = "\t\n   Arij shah \n\t";
console.log(personName3);
console.log(personName3.trim());
```

```typescript
// Number Eight
console.log(5 + 3);
console.log(10 - 2);
console.log(4 * 2);
console.log(16 / 2);

// Favorite Number
let favoriteNumber: number = 7;
console.log(`My favorite number is ${favoriteNumber}.`);

// Adding Comments
// Program 1: Personal Message
// Prints a personalized message to a person
// Author: Your Name
// Date: 2024-02-20

let personName: string = "Arij";
console.log(`Hello ${personName}, would you like to learn some Python today?`);

// Program 2: Name Cases
// Prints a person's name in lowercase, uppercase, and titlecase
// Author: Your Name
// Date: 2024-02-20

let personName2: string = "Arij shah";
console.log(personName2.toLowerCase());
```

```typescript
console.log(personName2.toUpperCase());
console.log(personName2.charAt(0).toUpperCase() +
personName2.slice(1).toLowerCase());

// Names
let names: string[] = ["Ahmed", "naeel", "haider"];
names.forEach(name => console.log(name));

// Greetings
let greetings: string = "Hello, ";
names.forEach(name => console.log(`${greetings}${name}!`));

// Your Own Array
let transportation: string[] = ["car", "bicycle", "train"];
transportation.forEach(item => console.log(`I would like to own a
${item}.`));

// Guest List
let guests: string[] = ["Zain", "Mariam", "Idrees"];
guests.forEach(guest => console.log(`Dear ${guest}, you are
invited to dinner.`));

// Changing Guest List
let unableToAttend: string = guests.pop()!;
console.log(`${unableToAttend} can't make it to dinner.`);

guests.push("Zeeshan Hussain ");
```

```javascript
guests.forEach(guest => console.log(`Dear ${guest}, you are still invited to dinner.`));

// More Guests
console.log("We found a bigger dinner table!");

guests.unshift("Nikola Tesla");
guests.splice(Math.floor(guests.length / 2), 0, "Leonardo da Vinci");
guests.push("Ada Lovelace");

guests.forEach(guest => console.log(`Dear ${guest}, you are invited to the larger dinner.`));

// Shrinking Guest List
console.log("Sorry, we can only invite two people for dinner.");

while (guests.length > 2) {
    let removedGuest: string = guests.pop()!;
    console.log(`Sorry, ${removedGuest}, there's no room for you at dinner.`);
}

guests.forEach(guest => console.log(`Dear ${guest}, you are still invited to dinner.`));

guests.length = 0;
console.log(guests);
```

```typescript
// Seeing the World
let placesToVisit: string[] = ["Tokyo", "Paris", "New York City",
"South Korea", "Sydney"];
console.log(placesToVisit);

console.log(placesToVisit.sort());

console.log(placesToVisit.reverse());

console.log(placesToVisit.reverse());

console.log(placesToVisit.sort());

console.log(placesToVisit.sort().reverse());

// Dinner Guests
console.log(`We are inviting ${guests.length} people to dinner.`);

// Array of Favorite Things
let favoriteThings: string[] = ["mountains", "beaches", "forests",
"waterfalls"];
console.log(favoriteThings);

// Intentional Error
let numbers: number[] = [1, 2, 3];
console.log(numbers[3]); // This will produce an index error since
there's no element at index 3

// Conditional Tests
```

```typescript
let car: string = 'subaru';
console.log("Is car == 'subaru'? I predict True.");
console.log(car == 'subaru');

// More Conditional Tests
// Tests for equality and inequality with strings
let string1: string = "Hello";
let string2: string = "World";
console.log(string1 == string2); // False
console.log(string1 != string2); // True

// Tests using the lower case function
console.log(string1.toLowerCase() == "hello"); // True
console.log(string2.toLowerCase() == "world"); // True

// Numerical tests
let num1: number = 5;
let num2: number = 10;
console.log(num1 > num2); // False
console.log(num1 < num2); // True
console.log(num1 >= num2); // False
console.log(num1 <= num2); // True

// Tests using "and" and "or" operators
let bool1: boolean = true;
let bool2: boolean = false;
console.log(bool1 && bool2); // False
```

```
console.log(bool1 || bool2); // True

// Test whether an item is in an array
let fruits: string[] = ["apple", "banana", "orange"];
console.log(fruits.includes("banana")); // True

// Test whether an item is not in an array
console.log(!fruits.includes("pineapple")); // True

// Alien Colors #1
let alien_color: string = 'green';
if (alien_color === 'green') {
    console.log("The player just earned 5 points.");
}

// Alien Colors #2
if (alien_color === 'green') {
    console.log("The player just earned 5 points for shooting the
alien.");
} else {
    console.log("The player just earned 10 points.");
}

// Alien Colors #3
if (alien_color === 'green') {
    console.log("The player earned 5 points.");
} else if (alien_color === 'yellow') {
```

```typescript
    console.log("The player earned 10 points.");
} else if (alien_color === 'red') {
    console.log("The player earned 15 points.");
}

// Stages of Life
let age: number = 25;
if (age < 2) {
    console.log("The person is a baby.");
} else if (age < 4) {
    console.log("The person is a toddler.");
} else if (age < 13) {
    console.log("The person is a kid.");
} else if (age < 20) {
    console.log("The person is a teenager.");
} else if (age≤25) {
     console. log( " The person is a adult.");
}
```