```
// 1. Write a program that checks if a number entered by the user is positive. If it is, print "The number is positive
let num=5;
if (num > 0 ){
   console.log("The number is positive");
}

// 2.Write a program that checks if a number entered by the user is even or odd. Print "Even" if the number is even and "Odd" if the number is odd.

let number=4;
if (number % 2===0) {
   console.log("Even");
}
else {
   console.log("odd");
}

// 3.Write a program that takes a number as input and prints "Negative" if it is less than 0, "Zero" if it is 0, and "Positive" if it is greater than 0.

const input_ =0;
if (input_<0){
   console.log("Negative");
}
else if (input_===0){
   console.log("Zero");
}
else if(input_>0){
   console.log("positive");
}

// 4.Write a program that takes three numbers as input and prints the largest of the three. Use nested if statements to determine the largest number.
let _1 = 45;
let _2 = 60;
let _3 = 55;
if (_1>_2){
  console.log(_1 + " is large number");
}
else if (_2>_3){
  console.log(_2 + " is large number");
}
else{
  console.log(_3 + " is large number");
}

// 5.Write a program that takes a grade as input (A, B, C, D, F) and prints a message: "Excellent" for A, "Good" for B, "Average" for C, "Poor" for D, and "Fail" for F. Use a switch statement to handle this.

let input__ = "C";
switch(input__)
{
   case "A": grade="Excellent";
   break;
   case "B":grade="Good";
   break;
```

```
   case "C":grade="Average";
   break;
   case "D":grade="Poor";
   break;
   case "F":grade="Fail";
   break;
   default: grade="Invalid"

}
console.log(grade)

// 6.Write a program that prints the first 10 natural numbers using a for loop.
for (let i = 0; i <= 10; i++) {
console.log(i);
}

// 7. Write a program that prints numbers from 1 to 5 using a do-while loop.

let i = 0;
do {
 i++;
 console.log(i);
}
while (i <= 4);

// 8.Write a program that prints the multiplication table of 5 using a while loop.
let j=1;
while(j<=10){
  console.log(5*j)
  j++
}

// 10.Write a program that checks if a number entered by the user is greater than 100. If it is, print
"The number is large.

let user_input = 989;
if(user_input>100){
   console.log("The number is large");
}
else {
   console.log("the number is small");
}

// 11.Write a program that checks if a person is eligible to vote. If the person's age is 18 or older, print
"Eligible to vote." Otherwise, print "Not eligible to vote."
let person_age = 21;
if (person_age>=18){
   console.log("Eligible to vote");
}
else {
   console.log("Not eligible to vote");
}

// 12. Write a program that takes a temperature value and prints "Cold" if the temperature is below 0,
"Warm" if the temperature is between 0 and 25, and "Hot" if the temperature is above 25.
let temperature = 26;
if (temperature<0){
```

```
   console.log("Cold");
}
else if (temperature>=0 && temperature<=25){
   console.log("Warm");
}
else {
   console.log("Hot");
}

// 13.Write a program that takes a number as input and checks if it is divisible by 2 and 3. If it is, print "Divisible by both 2 and 3." Otherwise, check if it is divisible by only 2 or only 3 and print the appropriate message.
let num1 =62;
if (num1%2===0 && num1%3===0){
   console.log("Divisible by both 2 and 3");
}
else if (num1%2===0){
   console.log("Divisible by 2");
}
else {
   console.log("divisible by 3");
}

// 14.Write a program that takes a day of the week as input (1 for Monday, 2 for Tuesday, etc.) and prints the name of the day using a switch statement.


// 15.Write a program that calculates the factorial of a number entered by the user using a for loop.

 let facto_num=10;
 res=1
 for(let i=facto_num;i>=1;i--){
    res=res*i
 }
 console.log(res);

//   16.
// 17.Write a program that takes a number as input and prints all the even numbers from 1 to that number using a while loop.
let num12 =15;
let r=1;
while(r<=num12){
   if(r%2===0){
      console.log(r);
   }
   r++
}

// 18.Given an object {title: "Book", author: "John Doe", year: 2020}, write a program that uses a for-in loop to print the keys and values in the format "key: value".
const ob_name = {title: "Book", author: "John Doe", year: 2020}
for (let objt in ob_name){
   console.log(objt + ":" + ob_name[objt]);
}

// 19.Write a program that checks if a character entered by the user is a vowel. If it is, print "The character is a vowel.
```

```
const arr = ["a","e","i","o","u"]
let in_var = "a";
if (arr.includes(in_var)){
   console.log("the character is vowel");
}

// 20.Write a program that checks if a string entered by the user is empty. If it is, print "The string is empty." Otherwise, print "The string is not empty.
let string1 = "";
if (string1 === ""){
   console.log("the string is empty");
}
else {
   console.log("the string is not empty");
}

// 21.Write a program that takes a person's age as input and prints "Child" if the age is less than 13, "Teenager" if the age is between 13 and 19, "Adult" if the age is 20 or older.
let person__age =12;
if (person__age <13){
   console.log("Child");
}
else if(person__age>13 && person__age<19){
   console.log("Teenager");
}
else {
   console.log("Adult");
}

// 22.Write a program that takes a number as input and prints whether it is positive, negative, or zero. Use nested if statements to check these conditions.
let input_number = -13;

if (input_number > 0) {
   console.log("The number is positive");
} else if (input_number < 0) {
   console.log("The number is negative");
} else {
   console.log("The number is zero");
}
// 23.Write a program that takes a month number (1 for January, 2 for February, etc.) and prints the number of days in that month. Use a switch statement to handle this, considering leap years for February.

// 24.Write a program that prints the Fibonacci series up to a given number using a for loop.

// 25.Write a program that repeatedly asks the user to enter a number until they enter a negative number. Then print the sum of all entered numbers (excluding the negative number) using a do-while loop.

// 26.Write a program that calculates the sum of all numbers from 1 to a given number using a while loop.

// 27.Given an object {product: "Laptop", price: 999.99, quantity: 10}, write a program that uses a for-in loop to print each property and its value in the format "property: value".
const ob_name1 = {title: "Book", author: "John Doe", year: 2020}
for (let objt1 in ob_name1){
```

```
   console.log(objt1 + ":" + ob_name[objt1]);
}

// 28.Write a program that checks if a user-provided string contains the letter "a". If it does, print
"The string contains 'a'.
let user="meenakshi"
for(let k=0;k<=user.length;k++)
   {
      if(user.charAt(k)==="a")
         {
            console.log("The String contains a")
         }
   }

// 29.Write a program that checks if a given year is a leap year. Print "Leap Year" if it is, otherwise
print "Not a Leap Year.
let year_num=2028;
if (year_num%4===0 && year_num%100 != 0){
   console.log("leap year");
}
else{
   console.log("not a leap year");
}

// 30.Write a program that takes a number grade (0-100) and prints the corresponding letter grade:
"A" for 90-100, "B" for 80-89, "C" for 70-79, "D" for 60-69, and "F" for below 60.
let number_1=10;
if(number_1 >=90 && number_1<=100)
   {
      console.log("grade:A")
   }
   else if(number_1 >=80 && number_1<=89)
      {
         console.log("grade:B")
      }
      else if(number_1>=70 && number_1 <=79)
         {
            console.log("grade:C")
         }
         else if(number_1 >=60 && Chech_num <=69)
            {
               console.log("grade:D")
            }
            else if(number_1 < 60 && number_1 >=0)
               {
                  console.log("F")
               }

// 31.Write a program that checks if a user-provided number is divisible by 4 and 6. Print appropriate
messages if the number is divisible by only one, both, or neither.
let user_provided_number =144;
if (user_provided_number%4===0 && user_provided_number%6===0 ){
    console.log("divisible by 4 and 6");
}
else if (user_provided_number%4===0){
   console.log("divisible by 4");
}
```

```
else if (user_provided_number%6===0){
  console.log("divisible by 6");
}
else {
   console.log("neither divisible by 4 nor 6");
}

// 32.Write a program that takes an integer representing a month (1 for January, 2 for February, etc.)
and prints the season ("Winter", "Spring", "Summer", "Autumn") for that month using a switch
statement.
let pro_num =13;
switch (pro_num){
   case 1: month_name="january",season_name="winter";
   break;
    case 2: month_name="february",season_name="winter";
   break;
    case 3: month_name="march",season_name="summer";
   break;
    case 4: month_name="april",season_name="summer";
   break;
    case 5: month_name="may",season_name="summer";
   break;
    case 6: month_name="june",season_name="autumn";
   break;
    case 7: month_name="july",season_name="winter";
   break;
    case 8: month_name="august",season_name="winter";
   break;
    case 9: month_name="september",season_name="winter";
   break;
    case 10: month_name="october",season_name="spring";
   break;
    case 11: month_name="november",season_name="spring";
   break;
    case 12: month_name="december",season_name="spring";
   break;
   default: month_name="invalid",season_name="invalid";
}
console.log(month_name);
console.log(season_name);

// 33.Write a program that prints the squares of the first 15 natural numbers using a for loop.
let square =15;
for(let s=1; s<=square; s++){
 let square_of_s =s*s;
 console.log(square_of_s);
}

// 34.Write a program that keeps asking the user for a password until the correct password "letmein"
is entered. Once the correct password is entered, print "Access Granted."
 let passwrd ="letmein";
 if (passwrd==="letmein"){
   console.log("Access Granted");
 }
 else {
   console.log("Access not granted");
 }
```

// 35.Write a program that takes a number and prints all the prime numbers less than that number using a while loop.

// 36.Given an object {movie: "Inception", director: "Christopher Nolan", year: 2010}, write a program that uses a for-in loop to list all the properties and their values in the format "Property: Value".

```
const ob = {movie: "Inception", director: "Christopher Nolan", year: 2010}
for (let obj in ob){
   console.log(obj + ":" + ob_name[obj]);
}
```

// 37.Write a program that checks if a user-provided string has a length greater than 5. If it does, print "The string is long.

```
let string="helloworld";
if (string.length>5){
   console.log("The string is long");
}
else {
   console.log("The string is small");
}
```

// 38.Write a program that checks if a given number is a multiple of 10. Print "Multiple of 10" if it is, otherwise print "Not a multiple of 10.

```
let given_number =100;
if (given_number%10===0){
   console.log("Multiple of 10");
}
else {
   console.log("Not a multiple of 10");
}
```