

תרגיל 3

```
int sum = 0;
int count = 0;

Console.WriteLine("Enter a three-digit number");
int num = int.Parse(Console.ReadLine());

while (num > 99 && num < 1000)
{
    if (num % 10 > num / 100)
    {
        sum += num;
    }

    if (((num / 10) % 10) % 2 == 0 && (num / 100) % 2 != 0)
    {
        count++;
    }

    Console.WriteLine("Enter a three-digit number");
    num = int.Parse(Console.ReadLine());
}

Console.WriteLine(sum);
Console.WriteLine(count);
```

תרגיל 4

```
Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

while(num > 9 && num < 100)
{
    if (num % 10 == (num / 10) + 2)
    {
        Console.WriteLine(num);
    }

    Console.WriteLine("Enter a number");
    num = int.Parse(Console.ReadLine());
}
```

תרגיל 5

```
Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

while (num != 0)
{
    bool is_prime = true;
    for (int i = 2; i < num && is_prime; i++)
    {
        if (num % i == 0)
        {
            is_prime = false;
        }
    }

    if (is_prime)
    {
        Console.WriteLine(num + " is prime");
    }

    Console.WriteLine("Enter a number");
    num = int.Parse(Console.ReadLine());
}
```

תרגיל 6

```
Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

while (num != 1)
{
    int digit_count = 0;
    int digits_sum = 0;

    while (num != 0)
    {
        digits_sum += num % 10;
        digit_count++;
        num /= 10;
    }

    Console.WriteLine($"Number of digits: {digit_count}");
    Console.WriteLine($"Sum of digits: {digits_sum}");

    Console.WriteLine("Enter a number");
    num = int.Parse(Console.ReadLine());
}
```

תרגיל 7

```
int count = 0;

Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

while (num != -1)
{
    if (num % 4 == 0 && num % 3 == 0)
    {
        count++;
    }

    Console.WriteLine("Enter a number");
    num = int.Parse(Console.ReadLine());
}

Console.WriteLine($"{count} numbers are divisible by 4 and 3");
```

תרגיל 8

```
Console.WriteLine("Enter first number");
int num1 = int.Parse(Console.ReadLine());

Console.WriteLine("Enter second number");
int num2 = int.Parse(Console.ReadLine());

while (!(num1 == 100 && num2 == 100))
{
    int sum_num1 = ((num1 / 10) % 10) + (num1 % 10);
    int sum_num2 = ((num2 / 10) % 10) + (num2 % 10);

    if (sum_num1 > sum_num2)
    {
        Console.WriteLine(num1);
    }

    else if (sum_num2 > sum_num1)
    {
        Console.WriteLine(num2);
    }

    Console.WriteLine("Enter first number");
    num1 = int.Parse(Console.ReadLine());
```

```
    Console.WriteLine("Enter second number");
    num2 = int.Parse(Console.ReadLine());
}
```

תרגיל 9

```
int count = 0;

Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

while (num != 10)
{
    if (num == 90)
    {
        count++;
    }

    Console.WriteLine("Enter a number");
    num = int.Parse(Console.ReadLine());
}

Console.WriteLine("There was " + count + " times 90");
```

תרגיל 10

```
Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

while (num != -10)
{
    if ((num % 10) % 5 == 0)
    {
        Console.WriteLine((num % 10) + 2);
    }

    else
    {
        Console.WriteLine(num % 10);
    }

    Console.WriteLine("Enter a number");
    num = int.Parse(Console.ReadLine());
}
```

פירוק מספרים

תרגיל 2

```
Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

Console.WriteLine("Enter digit number");
int digit = int.Parse(Console.ReadLine());

for (int i = 1; i < digit; i++)
{
    num /= 10;
}

if (num > 0)
{
    Console.WriteLine(num % 10);
}
else
{
    Console.WriteLine("-1");
}
```

תרגיל 3

```
bool all_equal = true;

Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine());

int prev_dig = num % 10;

while (num > 0 && all_equal)
{
    if (num % 10 != prev_dig)
    {
        all_equal = false;
        Console.WriteLine("DIFFERENT");
    }

    prev_dig = num % 10;
    num /= 10;
}

if (all_equal)
{

```

```
    Console.WriteLine("ALL EQUAL");  
}
```

תרגיל 4

```
int count = 0;  
  
Console.WriteLine("Enter a number");  
int num = int.Parse(Console.ReadLine());  
  
Console.WriteLine("Enter a digit");  
int digit = int.Parse(Console.ReadLine());  
  
while (num > 0)  
{  
    if (num % 10 == digit)  
    {  
        count++;  
    }  
  
    num /= 10;  
}  
  
Console.WriteLine(count);
```

תרגיל 5.א.

```
Console.WriteLine("Enter a number");  
int num = int.Parse(Console.ReadLine());  
  
int max = 0;  
int digit = 1;  
int digit_max = 0;  
  
while (num > 0)  
{  
    if (num % 10 > max)  
    {  
        max = num % 10;  
        digit_max = digit;  
    }  
  
    num /= 10;  
    digit++;  
}  
  
Console.WriteLine(digit_max);
```

תרגיל 5.ב.

```
// Call Random
Random rnd = new Random();

// biggest digit with highest digit location
int biggest_digit_max = 0;

// Repeat 10 times
for (int i = 1; i <= 10; i++)
{
    int num = rnd.Next(100, 10001); // Get random number

    int max = 0; // biggest digit
    int digit = 1; // digit location counter
    int digit_of_max = 0; // digit location of biggest digit

    while (num > 0) // disassembly number
    {
        // check if units is bigger than current max digit
        if (num % 10 > max)
        {
            max = num % 10;
            // update location of biggest digit
            digit_of_max = digit;
        }

        num /= 10; // ger rid of units
        digit++;
    }

    // check if current digit location of the max digit is
    bigger than biggest location of max digit
    if (digit_of_max > biggest_digit_max)
    {
        biggest_digit_max = digit_of_max;
    }

    Console.WriteLine(digit_of_max);
}

Console.WriteLine("The biggest is: " + biggest_digit_max);
```

תרגיל 6.א.

```
Console.WriteLine("Enter a number");
int num = int.Parse(Console.ReadLine()); // get number

int saveNum = num; // save number
int units = num % 10; // save units

int digits = 0; // digits counter
while (num > 0)
{
    digits++;
    num /= 10;
}

// Multiply units by 10 digits-1 times
for (int i = 1; i < digits; i++)
{
    units *= 10;
}

// Get rid of units in saved number
saveNum /= 10;
// Add multiplied units to saved number
saveNum += units;

Console.WriteLine(saveNum);
```

המשך למטה

תרגיל 6.ב.

```
Random rnd = new Random(); // Call random

for (int i = 1; i <= 10; i++)
{
    int num = rnd.Next(45, 140); // get number

    Console.WriteLine(num); // print before changes

    int saveNum = num; // save number
    int units = num % 10; // save units

    int digits = 0; // digits counter
    while (num > 0)
    {
        digits++;
        num /= 10;
    }

    // Multiply units by 10 digits-1 times
    for (int x = 1; x < digits; x++)
    {
        units *= 10;
    }

    // Get rid of units in saved number
    saveNum /= 10;
    // Add multiplied units to saved number
    saveNum += units;

    Console.WriteLine(saveNum);
}
```