שיעורי בית יסודות – לולאות FOR מונה וצובר, אופיר הופמן י3

**תרגיל 3**

// counter

int sum = 0;

// Repeat 20 times

for (int i = 1; i <= 20; i++)

{

// Get first number from user

Console.Write("Enter first number: ");

int num1 = int.Parse(Console.ReadLine());

// Get second number from user

Console.Write("Enter second number: ");

int num2 = int.Parse(Console.ReadLine());

// Check if both numbers meets the conditions

if((num1 > 0 && num2 > 0) && (num1 % 2 !=0 && num2 % 2 != 0))

{

// Add both number to sum

sum += num1 + num2;

}

}

Console.WriteLine("Sum: " + sum);

**תרגיל 4**

// counters

int all\_done = 0;

int not\_everything = 0;

int non\_done = 0;

// Get number of needed programs for this semester from user

Console.WriteLine("How many programs are needed to be handed in this semester? ");

int programs\_needed = int.Parse(Console.ReadLine());

// Repeat 30 times

for (int i = 1; i <= 30; i++)

{

// Get number of programs handed in

Console.WriteLine("How many programs did the student hand in? ");

int programs\_handed = int.Parse(Console.ReadLine());

// Check if number of programs handed in is equal, less than the needed, or 0

if (programs\_handed == programs\_needed)

{

all\_done++;

}

if (programs\_handed < programs\_needed && programs\_handed > 0)

{

not\_everything++;

}

else

{

non\_done++;

}

}

Console.WriteLine($"{all\_done} students handed in everything");

Console.WriteLine($"{not\_everything} students handed in only a part of the needed number");

Console.WriteLine($"{non\_done} students did not hand in anything");

**תרגיל 5**

// Counters

int love\_comedy = 0;

int all\_three = 0;

int exactly\_two = 0;

// Repeat 10 times

for (int i = 1; i <= 3; i++)

{

// Get what movies types the students likes

Console.WriteLine("Do you love comedy movies? (y or n): ");

char comedy = char.Parse(Console.ReadLine());

Console.WriteLine("Do you love drama movies? (y or n): ");

char drama = char.Parse(Console.ReadLine());

Console.WriteLine("Do you love thriller movies? (y or n): ");

char thriller = char.Parse(Console.ReadLine());

// Check if student likes comedy

if (comedy == 'y')

{

love\_comedy++;

}

// Check if student likes all movie types

if (drama == 'y' && thriller == 'y' && comedy == 'y')

{

all\_three++;

}

// Check if student likes exactly two types of movies

else if ((thriller == 'y' && drama == 'y') || (thriller == 'y' && comedy == 'y') || (drama == 'y' && comedy == 'y'))

{

exactly\_two++;

}

}

Console.WriteLine(love\_comedy + " Students love comedy movies");

Console.WriteLine(all\_three + " Students love all three types");

Console.WriteLine(exactly\_two + " Students love exactly two movie types");

**תרגיל 6**

// Counter

int failed = 0;

// Get number of tested from user

Console.WriteLine("How many were tested? ");

int tested = int.Parse(Console.ReadLine());

for (int i = 1; i <= tested; i++)

{

// Get number of mistakes made on traffic signs questions

Console.WriteLine("How many mistakes were made on traffic signs questions? ");

int sign\_mistakes = int.Parse(Console.ReadLine());

// Mistakes on other types of questions

Console.WriteLine("How many other mistakes were made on other questions? ");

int otherQuestions\_mistakes = int.Parse(Console.ReadLine());

// Check if student failed according to requirements

if (sign\_mistakes > 0 || otherQuestions\_mistakes > 3)

{

failed++;

}

}

double fails\_precentage = (failed / tested) \* 100;

Console.WriteLine($"{failed} failed. That's {fails\_precentage}% of the tests");

**תרגיל 7**

// Define an initial max and min numbers

int max = int.MinValue;

int min = int.MaxValue;

// Repeat 10 times

for (int i = 1; i <=10; i++)

{

// Get a number from user

Console.WriteLine("Enter a number: ");

int num = int.Parse(Console.ReadLine());

// Check if number is bigger than the current max

if (num > max)

{

max = num;

}

// Otherwise - check if the number is smaller than the current min

else

{

if (num < min)

{

min = num;

}

}

}

Console.WriteLine("Max: " + max);

Console.WriteLine("Min: " + min);

**תרגיל 8**

// Counter

int proper\_age = 0;

// Repeat 30 times

for (int i = 1; i <= 30; i++)

{

// Get age from user

Console.WriteLine("Enter age: ");

int age = int.Parse(Console.ReadLine());

// Check if age meets the requirements

if (age >= 22 && age <= 44)

{

proper\_age++;

}

}

Console.WriteLine("People between 22 to 40 years old: " + proper\_age);

**תרגיל 9**

// Counters

int three\_activities = 0;

int two\_activities = 0;

int moreThan\_three = 0;

int more\_toursThan\_parties = 0;

int n = 100;

// Repeat n times

for (int i = 1; i <= n; i++)

{

// Get number of tours the student went on

Console.WriteLine("Enter number of tours: ");

int tours = int.Parse(Console.ReadLine());

// Get number of parties

Console.WriteLine("Enter number of parties: ");

int parties = int.Parse(Console.ReadLine());

// Get number of movies watched

Console.WriteLine("Enter number of movies: ");

int movies = int.Parse(Console.ReadLine());

// Check first condition

if (tours >= 1 && parties >= 1 && movies >= 1)

{

three\_activities++;

}

// Check second condition

if ((tours >= 1 && parties >= 1 && movies == 0) || (tours >= 1 && parties >= 0 && movies == 1) || (tours >= 0 && parties >= 1 && movies == 1))

{

two\_activities++;

}

// Check third condition

if (tours > 3 || parties > 3 || movies > 3)

{

moreThan\_three++;

}

// Check fourth condition

if (tours > parties)

{

more\_toursThan\_parties++;

}

}

Console.WriteLine("Had all three activities: " + three\_activities);

Console.WriteLine("Had exactly two activities: " + two\_activities);

Console.WriteLine("Had more than three times an activity: " + moreThan\_three);

Console.WriteLine("Had more tours than parties: " + more\_toursThan\_parties);

**תרגיל 10**

// Counters

int three\_shows = 0;

int one\_show = 0;

// Repeat 2000 times

for (int i = 1; i <= 3; i++)

{

// Get what shows the student want to buy tickets for

Console.WriteLine("Do you want to purchase a ticket for show A? (0 or 1)");

int show1 = int.Parse(Console.ReadLine());

Console.WriteLine("Do you want to purchase a ticket for show B? (0 or 1)");

int show2 = int.Parse(Console.ReadLine());

Console.WriteLine("Do you want to purchase a ticket for show C? (0 or 1)");

int show3 = int.Parse(Console.ReadLine());

// Check if student wants to purchase all three or just one

if (show1 == 1 && show2 == 1 && show3 == 1)

{

three\_shows++;

}

else if ((show1 == 1 && show2 == 0 && show3 == 0) || (show1 == 0 && show2 == 1 && show3 == 0) || (show1 == 0 && show2 == 0 && show3 == 1))

{

one\_show++;

}

}

Console.WriteLine($"{three\_shows} students purchesed tickets for all three shows");

Console.WriteLine($"{one\_show} students purchesed ticketsfor one show");