Learn to Program

For BSE 2025/26 OUSL

Live-session 7, 30 March 2026

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Agenda

- Unit 5. Subprograms
  - Subprogram
  - Function
- Organizing the final exam
  - Reserve your seat - please respond!
  - Mock exam

- Final lap
  - Finish Unit 4 exercises till Thursday, 2 April
  - Examination Thursday 2 April during live-session
  - Finish Unit 5 exercises till Saturday, 4 April
  - Final deadline midnight Saturday, 4 April

Subprograms, eg. I

```
Console: connection closed (Running: 10 seg)
Type 1 for a 9 inch pizza
Type 2 for a 12 inch pizza
Type 3 for a 15 inch pizza
Type 0 to end
Make your choice: 3
You have odered a 15 inch pizza

Type 1 for a 9 inch pizza
Type 2 for a 12 inch pizza
Type 3 for a 15 inch pizza
Type 0 to end
Make your choice: 1
You have odered a 9 inch pizza

Type 1 for a 9 inch pizza
Type 2 for a 12 inch pizza
Type 3 for a 15 inch pizza
Type 0 to end
Make your choice: 0
No more orders
```

```
12 while n > 0:
13     print("Type 1 for a 9 inch pizza")
14     print("Type 2 for a 12 inch pizza")
15     print("Type 3 for a 15 inch pizza")
16     print("Type 0 to end")
17     print("Make your choice: ", end='')
18     n = int(input())
```

```
35     def pizzamenu():
36         print("Type 1 for a 9 inch pizza")
37         print("Type 2 for a 12 inch pizza")
38         print("Type 3 for a 15 inch pizza")
39         print("Type 0 to end")
40         print("Make your choice: ", end='')
41
```

```
17
18 pizzamenu()
19
```

(from 4.9 Order a pizza (challenge))

Subprograms, eg. II

```python
import machine
import uasyncio

# Settings
led = machine.Pin(25, machine.Pin.OUT)
btn = machine.Pin(15, machine.Pin.IN, machine.Pin.PULL_UP)

# Coroutine: blink on a timer
async def blink(delay):
    while True:
        led.toggle()
        await uasyncio.sleep(delay)

# Coroutine: only return on button press
async def wait_button():
    btn_prev = btn.value()
    while (btn.value() == 1) or (btn.value() == btn_prev):
        btn_prev = btn.value()
        await uasyncio.sleep(0.04)

# Coroutine: entry point for asyncio program
async def main():

    # Start coroutine as a task and immediately return
    uasyncio.create_task(blink(0.2))
```

A real-time program controlling LEDs by push puttons

From 4.9 Order a pizza (challenge)

Functions, eg. I

```
 3
 4  print("Type a temperature in Fahrenheit: ")
 5
 6  f = float(input())
 7
 8  # TODO : Convert Fahrenheit to Centigrade
 9
10  c = (f - 32)*100/180
11
12  print("Temperature in Centigrade: ", c)
13
```

```
14
15  def fahr2cel(fahr)
16      return (fahr - 32)*5/9
```

```
 4
 5  print("Type a temperature in Fahrenheit: ")
 6
 7  f = float(input())
 8
 9  # TODO : Convert Fahrenheit to Centigrade
10
11  c = fahr2cel(f)
12
13  print("Temperature in Centigrade: ", c)
14
```

From 4.9 Order a pizza (challenge)

Functions, eg. II

```
25
26 def isleap(y):
27     if y%400 == 0:
28         return True
29     if y%100 == 0:
30         return False
31     if y%4 == 0:
32         return True
33     return False
34
```

```
35
36 print("Type the year: ", end='')
37 year = int(input())
38 print(isleap(year))
39
```

Functions, eg. III

```
40
41 def gregday(year, month, day):
42     # Returns the number of days from the reference day,
43     # 1 January year 1, to the given date, assuming that
44     # the Gregorian calendar was valid since then
45
```

to find the number of days
1. first i calculated the number of days from year 0 to given year
by first assuming every year had 365 days and then added the number of leap years to it so i got the total number of days till the given year

2. then i checked if the given year is a leap year and calculated the number of days from the start of the given year to the given date

3.Added both of them found the remainder by 7 and found the day

Incorrect expected output has been set for Question 3.8 VPL – Day of the Week (optional). Kindly review it.

https://edunet.lk/mod/forum/discuss.php?d=816

Mock exam!

- Respond to **5.5 I will attend / not attend**
- How the Safe Exam Browser (SEB) works
- Take **5.6 Mock Exam, Monday 30 March**

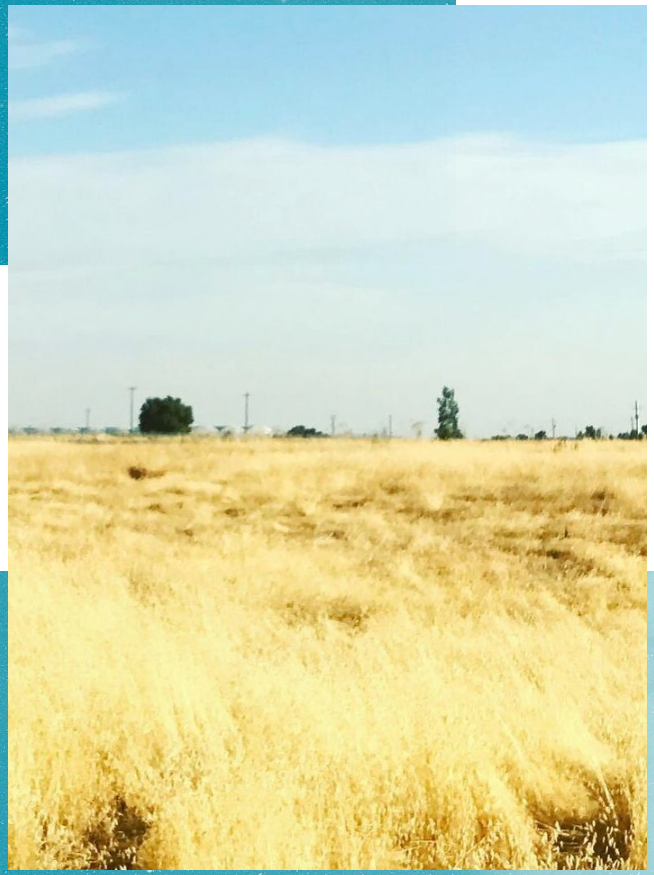
Deadlines

Finish Unit 4 till midnight Thursday

Finish Unit 5 till midnight Saturday

Announcement: Absolute deadline midnight Saturday

Examination on Thursday, 2 April session



Current grades

1-4	5		
5-9	6		
10-14	12		
15-19	12	16.2	60%
20-24	8		
25-27	**8**		


Q?