

**Scenario:**

This week, Lindiwe Ledwaba has received a 3-Persons Group-Pizza-Voucher for the value of 300 Rand which she wants to redeem together with her two best friends, Natasha Naidoo and Vanessa Venter, at *Antonio's Pizzeria Italiana* once again.

When ordering a 3-Persons Group-Pizza it is possible to **repeatedly** select more and more toppings in **any sequence of choice**, **until** it is enough or until the budget is no longer sufficient. Free coffee is offered **if** the total price of the Group-Pizza comes very close to the total budget.

REQUIREMENTS SPECIFICATION

**Pre-Conditions:**

- constant: large rectangular base pizza for 3 people without additional toppings: 60,- Rand.
- constant: additional\_olives: 15,50 Rand. // still the same price as last week
- constant: additional\_onions: 11,- Rand. // still the same price as last week
- constant: additional\_cheese: 12,30 Rand. // still the same price as last week
- constant: additional\_salami: 22,- Rand. // still the same price as last week
- constant: additional\_shrimps: 25,40 Rand. // still the same price as last week
- variable: budget: 300,- Rand.
- variable: invoice: 0,- Rand.

**ALGORITHM:**

→ See the **Nassi-Shneiderman Diagram** on the right-hand-side of this specification sheet →

**Post-Conditions:**

After the algorithm has reached its *termination*, all of the following properties must be guaranteed:

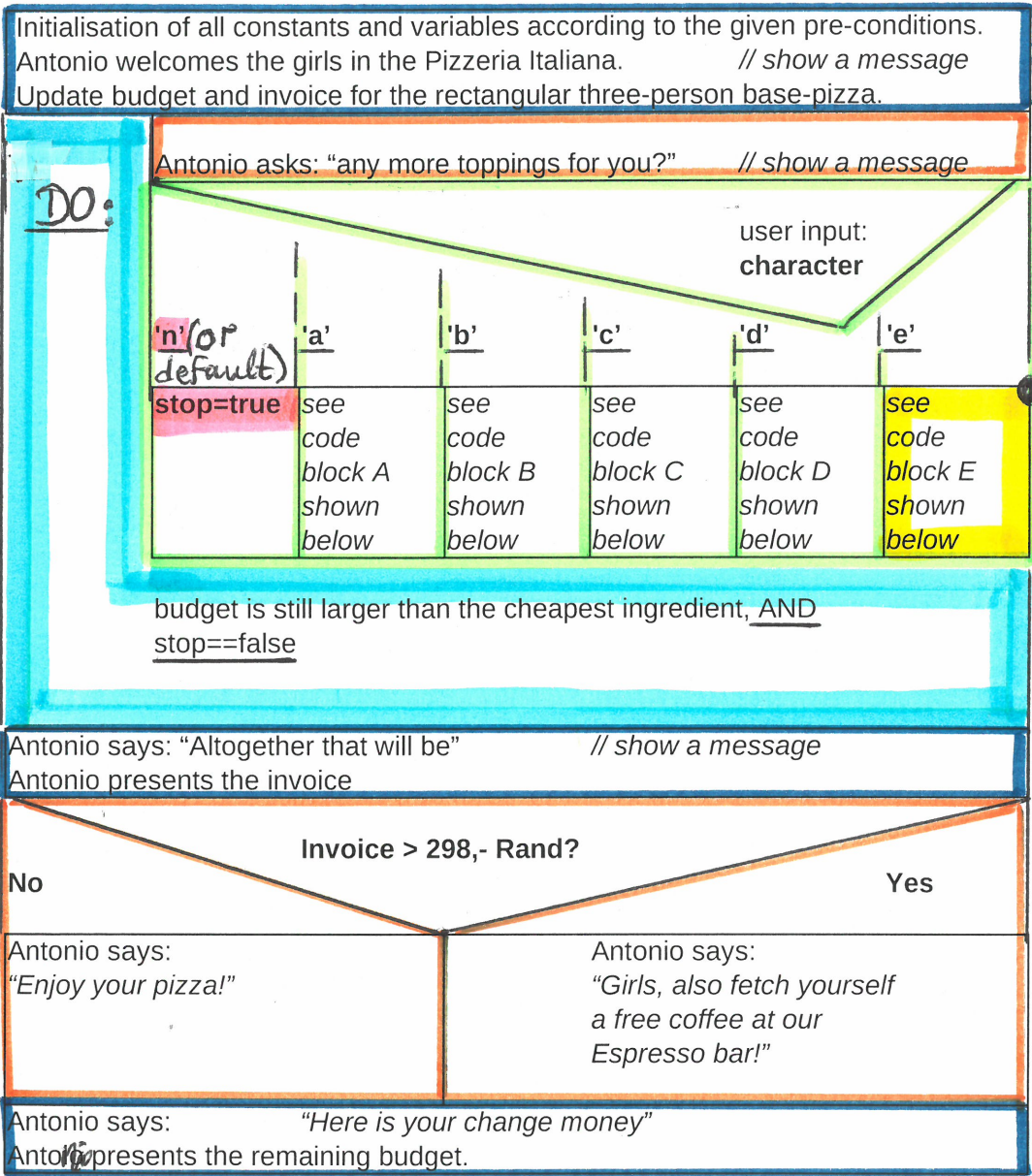
- budget ≥ 0,-
- invoice ≥ 60,-
- invoice+budget=300,-
- invoice *correctly reflects* the *selected* Pizza ingredients (as in the "run" of the algorithm).

**YOUR TO-DO-TASKS:**

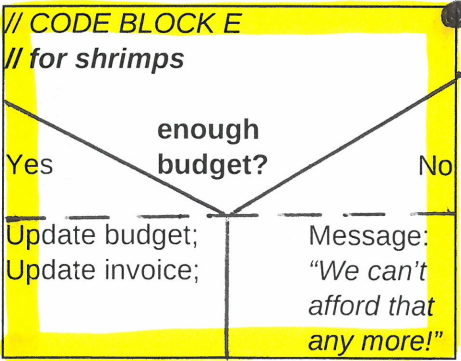
- Do not** use advanced programming techniques were not yet shown in the weekly Syllabus!
- Follow the Algorithm** of the given Nassi-Shneiderman **Diagram**!
- Implement** the given Requirements Specification *correctly* with a C++ program.
- Test** your C++ carefully with [https://www.onlinegdb.com/online\\_c++\\_compiler](https://www.onlinegdb.com/online_c++_compiler).
- Ask a Tutor for help** in case that you get stuck with the problem.
- Convince yourself that everything is OK before you submit** your work.
- Submit** your thoroughly tested C++ program to the ClickUp submission website.

**Do not miss the submission deadline!**  
**Belated submissions will be rejected.**  
NO deadline-extension will be granted.

Advice: Syllabus of the Week includes SWITCH-statements as well as DO-WHILE-loops this week



**NOTE:**  
Code blocks A,B,C,D are almost identical with Code block E.  
A is for Olives,  
B is for Onions,  
C is for Cheese,  
D is for Salami.



INSERT THE YELLOW BLOCK THERE