code.sprint MT

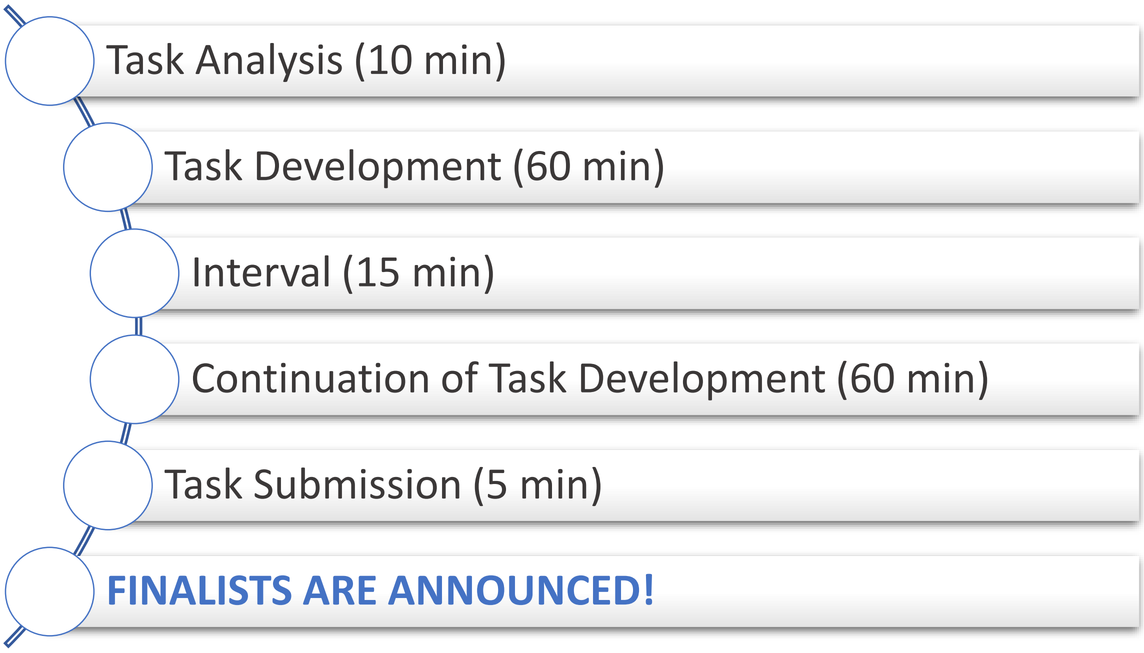
TASK BOOKLET

- Qualifiers Round -

Post-Sec 2020

DIRECTORATE FOR LEARNING &
ASSESSMENT PROGRAMMES

Qualifiers Round Schedule



- Task Analysis (10 min)
- Task Development (60 min)
- Interval (15 min)
- Continuation of Task Development (60 min)
- Task Submission (5 min)
- **FINALISTS ARE ANNOUNCED!**

Deal or No Deal (120 minutes)

Deal or No Deal is the name of a television game show, the first of which was the Dutch ***Miljoenenjacht*** (Hunt for Millions) produced by Dutch producer Endemol. It is played with up to 26 boxes, each containing randomly assigned sums of money or items. The player claims one box at the start of the game, without its contents being revealed. The contestant then chooses the other boxes, one at a time, to be immediately opened and removed from play. Throughout the game, the player is offered an amount of money to quit, being asked the titular question, "Deal or no deal?" If the contestant rejects every deal and eliminates all the other cases or boxes, the player keeps the money that was in the original case or box. Thus, the contestant "wins" depending on whether the player should have taken one of the deals or should have held onto the original case or box until the very end.

Create a variation of this TV game show according to the rules below:

The game revolves around the opening of 22 numbered boxes, each of which contains a different cash prize. The contents, as per table 1, are placed inside the boxes at random. The contents are known at the start of the game, but their specific location is unknown. The game proceeds as follows:

Functionality #1: Game Start

1. The user enters player name.
2. A menu is shown with three options: 1) View Hall of Fame, 2) Start Game, and 3) Quit Game.
   - Option 1: will show a list of players who have played and the amount they won, in ascending order by win amount.
   - Option 2: will start the game starts; see functionality #2 below.
   - Option 3: will exit the game.

Functionality #2: Game Start

1. The player chooses one of the available boxes. This becomes the **player's box** and is removed from the list of available boxes.

2. Round 1:

    2.1. Program shows the available prizes and boxes (see table 1).

    2.2. The player chooses 8 boxes.

    2.3. The program reveals the contents of the chosen boxes, and these are then removed from the list of available boxes. The prizes revealed are removed from the list of available prizes.

    2.4. The bank calculates the average value of the remaining boxes and offers this to the player – asking "Deal or No Deal?".

    2.5. If the player takes the deal, the game ends and the player is shown what was in their box. Otherwise, the game proceeds to round 2.

3. Round 2:

    3.1. Program shows the available prizes and boxes. The boxes already chosen, and the prizes already revealed in previous rounds are not shown.

    3.2. The game proceeds as with Round 1, but this time the player chooses 6 boxes.

    3.3. If the player refuses the bank's deal, the game proceeds to round 3.

4. Round 3:

    4.1. Program shows the available prizes and boxes. The boxes already chosen, and the prizes already revealed in previous rounds are not shown.

    4.2. The game proceeds as with Round 1, but this time the player chooses 4 boxes.

    4.3. If the player refuses the bank's deal, the game proceeds to round 4.

5. Round 4:

    5.1. Program shows the available prizes and boxes. The boxes already chosen, and the prizes already revealed in previous rounds are not shown.

    5.2. The game proceeds as with Round 1, but this time the player chooses 2 boxes.

    5.3. If the player refuses the bank's deal, the game proceeds to the final round.

6. Final Round:

    6.1. The player can choose to either keep their box, or switch to the remaining box.

    6.2. The contents of both boxes are revealed, and the player takes what was in the box they chose.

7. At the end of each game, the player's winnings and name are saved in the hall of fame.

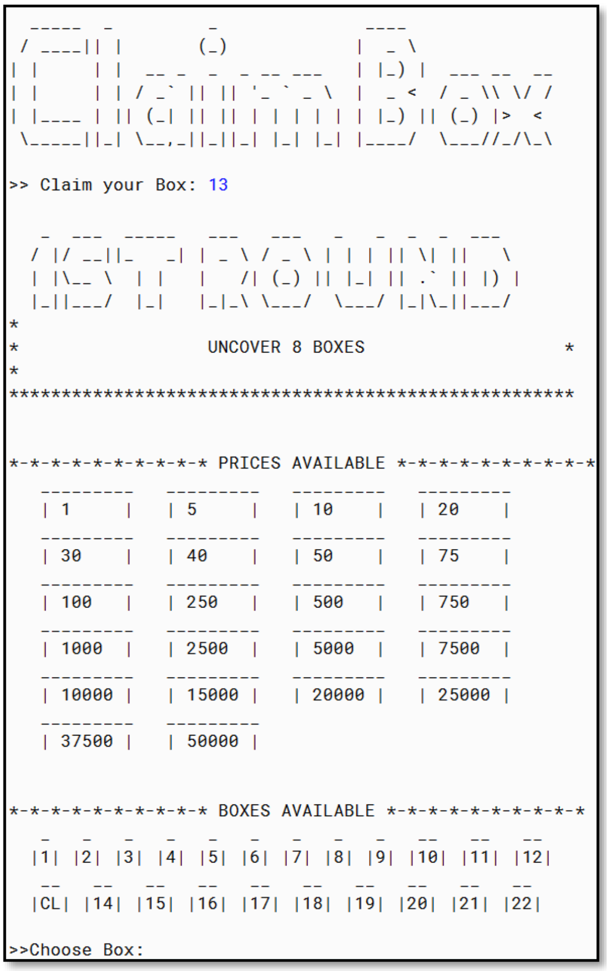
Validation

1. The player’s name must be unique, i.e. not already in the hall of fame.
2. The menu must be validated such that non-existing menu items or invalid input must be handled.
3. Choosing a box (either initially, or as part of the rounds) must include validation – i.e. not being able to choose a box already chosen, and not causing a runtime error on invalid input.
4. Choosing to accept/reject the bank’s deal must include validation – i.e. not causing a runtime error on invalid input.

Note

Every time a player chooses their boxes, there should be a clear indication of:

- The list of boxes still available.
- The list of prizes still available.



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>> Claim your Box: 13


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*
*                   UNCOVER 8 BOXES                  *
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   | 1     |   | 5     |   | 10    |   | 20    |
   ---------   ---------   ---------   ---------
   | 30    |   | 40    |   | 50    |   | 75    |
   ---------   ---------   ---------   ---------
   | 100   |   | 250   |   | 500   |   | 750   |
   ---------   ---------   ---------   ---------
   | 1000  |   | 2500  |   | 5000  |   | 7500  |
   ---------   ---------   ---------   ---------
   | 10000 |   | 15000 |   | 20000 |   | 25000 |
   ---------   ---------
   | 37500 |   | 50000 |


*-*-*-*-*-*-*-*-*-* BOXES AVAILABLE *-*-*-*-*-*-*-*-*-*
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   |1|  |2|  |3|  |4|  |5|  |6|  |7|  |8|  |9|  |10|  |11|  |12|
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   |CL|  |14|  |15|  |16|  |17|  |18|  |19|  |20|  |21|  |22|

>>Choose Box:
```

Figure 1: Sample screenshot

€1	€5	€10	€20
€30	€40	€50	€75
€100	€200	€500	€750
€1000	€2500	€5000	€7500
€10000	€15000	€20000	€25000
€37500	€50000		

Table 1: List of contents (prizes)

Name the class containing the main method **RunApp.**

Submit your program in a folder named **DealOrNoDeal**

Assessment Rubric

Program Functionality	User-Friendly Interface	Proper use of Comments	Proper Conventions (Camel case, meaningful var names etc.)	Name of Folder & Class/es	User Input	Suitable Prompts / Messages displayed
Randomisation of contents in boxes (no duplicate)	Arithmetic Operations (generate bank offer)	Proper use of Data Structures	Proper use of Classes	Use of Files (Writing/Reading)	Sorting (Hall of Fame)	Other Features (Not listed in the task)

Validation						**Maximum Score: 40** **+ 2 for every extra feature.**
Player Name (unique)	Start Menu Option	Claimed Box	During Rounds	Bank Offer	Final Round	

0 – Not Satisfactorily | 1- Partly Satisfactorily | 2- Entirely Satisfactorily

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