code.sprint MT

TASK BOOKLET

- Qualifiers Round -

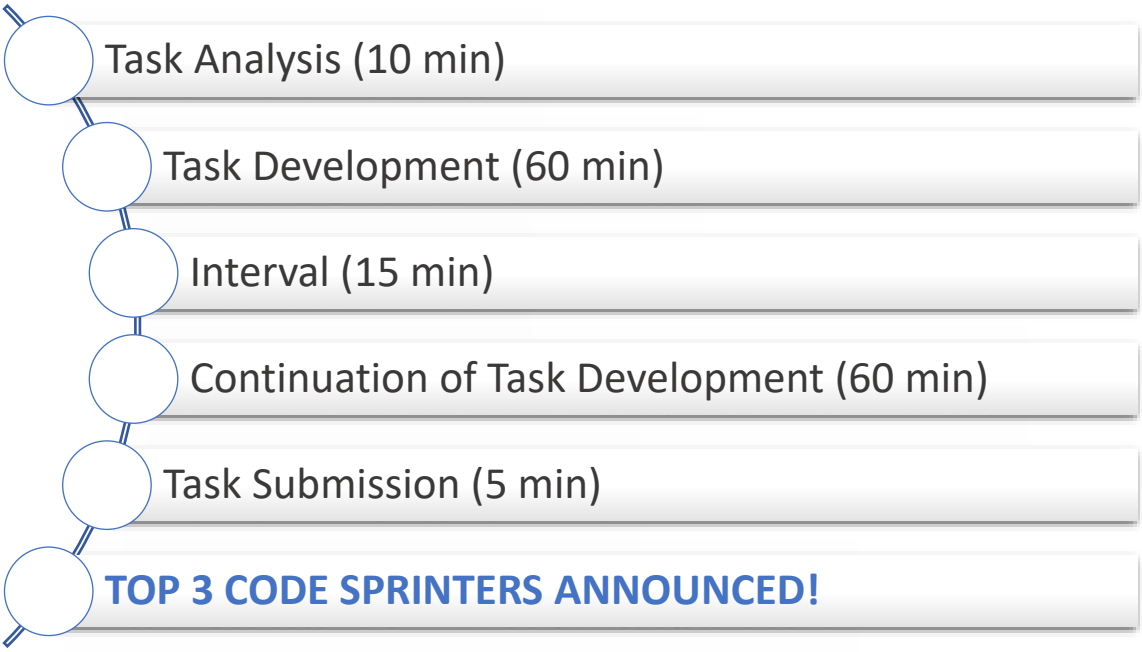
Secondary Category

2022

ICE Malta

GOVERNMENT OF MALTA
RESEARCH AND INNOVATION
MINISTRY FOR EDUCATION, SPORT, YOUTH
DIRECTORATE FOR LEARNING AND ASSESSMENT PROGRAMMES

Qualifier Round Schedule



Coder's Secret (120 minutes)

Develop an application that asks the player three questions to obtain a code that will crack the 'Coder's Secret'.

Functionality #1: Main Menu

The app should present a main menu with four options: 1) Introduction, 2) Get Code, 3) Unlock Secret, and 4) Exit.

- **Introduction:** This option introduces the game to the user by providing a brief explanation of the gameplay and how to unlock the secret.
- **Get Code:** the user will be asked three questions to get the code that unlocks the secret. Check functionality #2 below.
- **Unlock Secret:** The user is asked to input the three-digit code to unlock the secret. Check functionality #3 below.
- **Exit:** Quits the Main Menu and the program stops.

Functionality #2: Get Code

1. The user is asked the questions below:

   Question A: Who was the first computer programmer?
   1. Charles Babbage
   2. Ada Lovelace
   3. Bill Gates
   Correct Answer: 2

Question B: Which WW II cryptanalyst is credited as the father of modern computing?
1. Alan Turing
2. Steve Jobs
3. Bill Gates
Correct Answer: 1

Question C: Who were the college students who first coded the Google search engine?
1. Hewlett & Packard
2. Wozniak & Jobs
3. Page & Brin
Correct Answer: 3

2. The questions and the three multiple answer options are displayed.
3. The user enters the number 1, 2 or 3 for the answer.
4. The system will not display any feedback after answering question 1 and questions 2.
5. After answering question 3, if the user got all the answers correct, the app displays the correct code (007). Otherwise, it randomises and displays a three-digit code which is not 007.

Functionality #3: Get Secret

1. The app asks the user for the code and should accept only a three-digit code.
2. If the user's code is not the correct code, it displays "Incorrect Code – Secret Locked!"
3. If the user's code is correct, it displays "Secret Unlocked" and outputs the secret quote according to the day of the week as per table below:

Day	Day No.	Quote
Monday	Day 1	'No code has zero defects' - Unknown
Tuesday	Day 2	'Everybody in this country should learn how to program a computer, because it teaches you how to think' – S Jobs
Wednesday	Day 3	'The only way to go fast, is to go well' – R C Martin
Thursday	Day 4	'Take time to do the closest thing to a superpower: code' - S Eddings
Friday	Day 5	'I'm not a great programmer. I'm just a good programmer with great habits' – K Beck
Saturday	Day 6	'Programming is learnt by writing programs' – B Kernighan
Sunday	Day 7	'Weeks of coding can save hours of planning' - Unknown

Functionality #4: Validation

To enhance the user experience, warning messages should be used, and runtime errors avoided when invalid inputs or non-existing options are entered, such as entering option 5 in main menu, or entering letter 'C' to answer a question, or entering 1235 as the code.

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

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

Hint:

To get the current day of the week:

a. the library `java.util.Date` needs to be imported

b. an instance of class Date should be created: `Date myDate = new Date();`

c. displays the day of the week: `System.out.println(myDate.getDay());`

This will display the day as a number. For example, if the day is Monday, it displays 1, or if the day is Saturday, it displays 6.

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
Output of correct secret quote (According to the day)	Proper use of data structures.	Validation (Avoid Runtime Error)	Validation (Menu Options)	Validation (Question Answers)	Other Features (Not listed in the task)	
Maximum Score: 24 + 2 for every extra feature.						
0 – Not Satisfactorily | 1- Partly Satisfactorily | 2- Entirely Satisfactorily						


eSkills
eSkills Malta Foundation


LeoVegas


FreeHour