Aim: To enhance **INTRODUCTORY** computer program writing and testing skills using Python.

Assignment titles

Pair work

1.	Early Cancer Detection
2.	IQ Test
3.	Predicting Risk of Diabetes
4.	EQ Test
5.	Depression Detection
6.	Mental Age Test
7.	Career Test
8.	Personality Test

Requirements

- Question assigned randomly, student should not choose the question
- Design and develop Python program **using modular design approach** and test.
- Document the test run (avoid black screenshot) and save it as **pdf. file**
    - copy and paste output from Python shell (remove unwanted details)
- Name of user-defined functions, variables and modules must be meaningful
- User input is required to continue/terminate the program
- Do not define single function in a module
- Upload **.py (all modules) and .pdf file** (**only program testing- NOT the source code)** on Moodle Assignment dropbox according to your Question number
    - .py files (all the source programs – modules)
    - .pdf file (Program Testing Document)
- Student names, ID and question No should be included in all programs.
- Submission due date: **Friday, April 1, 2022** but allowed before, Saturday, April 2 2022, 12 am.
- Identical work regarded as plagiarism.

Marking Criteria

	Marks
Modular design	/ 5
loop structure	/ 5
Input/output message	/ 5
Validation & error message	/ 5
Test Data & Testing	/ 5
Fulfilled all requirements	/ 5
Total assignment marks (10%)	/30

Example : find sum of two numbers between 1 to 10

Template (Test run)

Test Data

number1 input	number2 input	Sum output
10	5	15
11 (invalid)	5	Error message
12	13(invalid)	Error message
8	10	18
…..		

Test Run 1 (screenshot)

```
Enter number 1:10
Enter number 2:5
sum of 10 and 5 is 15
>>>
```

Test Run 2

…

…
Reference
No format…

Marking Rubrics (pair work)	5 marks - Excellent	4 marks- Good	3 marks- Satisfactory	2 marks- Poor	1 mark - Poor	no mark
Modular design	modular design (at least 3-4 modules) without errors and proper program termination with more than one user defined function in each module	modular design (at least 3 modules) without errors and proper program termination with more than one user defined function in each module	modular design (at least 3 modules) with more than one user defined functions in each module	modular design (at least 2 modules)	No modular design – only functions	No modular design and user defined functions
loop structure	able to use both for loop and while loop and loops well designed and able to use loops to restart the program and exit from the program	able to use both for loop and while loop or loops well designed or able to use loops to restart the program and exit from the program	able to use loops in the program but design for restarting the program and exit from the program not strong	able to use only for loop or while loop but no design for restarting the program and/or exit from the program	very simple loop structure used and no loop structure used to restart and exit from program	no loop structure at all
Input/output message	Very clear input and output massages Very clear output	Clear input and output massages Clear output	Clear input or output massages Somehow able to understand output	Has only input or output messages but not both Difficult to understand the output	No meaningful input or output messages Unable to understand the output	No proper (meaningful) input and output messages

Validation & error message	Excellent data validation and clear error messages and able to re-enter invalid data *All types of data are validated	Good data validation and clear error messages and able to re-enter invalid data *Not all types of data are validated	Satisfactory data validation and somehow clear error messages and able to re-enter invalid data but not for all *Many types of data are not validated	Poor data validation and error messages are not clear and unable to re-enter invalid data	Poor data validation and no error messages and unable to re-enter invalid data	No data validation and error messages in the program at all
Test Data & Testing	Excellent test data (all valid and invalid data used) and Test run done several rounds	Good test data (most of the valid and invalid data used) and Test run done several rounds	Satisfactory test data (several valid and/or invalid data used) and Few test run done	Poor test data (selected valid and/or invalid data used) and only test run done	Poor test data (selected valid or invalid data used) or only test run done	No test data and No testing done