United Arab Emirates
Ministry of Education

الإمـــارات العـربيـة المتحدة
وزارة التربيـــــة والتعليـــم

Design Technology

Grade 7 Task Sheet

TEACHER VERSION

Student Learning Objectives (SLOs):
- Use of Input and Print functions
- Store values and text using variables and strings
- Explain and demonstrate IF statements (ELSE)
- Understand importance of indentation
- Solve equations using math operators
- Commenting on code

EQUIPMENT REQUIRED:
- Computer
- PyCharm Edu software
- Teacher Version Python file

TASK INTRODUCTION:

You must create a simple calculator using PyCharm Edu. It must be able to carry out addition, subtraction, multiplication and division for two numbers. The two numbers must be entered by a user.

The calculator must print the full equation for the calculation. If the user has entered a wrong input, it must print INVALID INPUT.

Your code must display correct usage of:
- If, Else If and Else statements
- Variables and Strings
- Input and Print functions
- Operators (+, -, *, /, =, ==)
- Indentation
- Commenting

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TEACHER STEPS:

No.	Work Steps	Remarks
1.	Open PyCharm Edu (refer to textbook)	
2.	Use the input function to ask the user: *"What is the first number?: "* `num1 = int(input("What is the first number?: "))`	
3.	Use the input function to ask the user: *"What is the second number?: "* `num2 = int(input("What is the second number?: "))`	

4.	Print the different operators
	
	`print("Select operation.")`
	`print("a) Add (+)")`
	`print("b) Subtract (-)")`
	`print("c) Multiply (×)")`
	`print("d) Divide (÷)")`	

5.	Use the input function to ask the user: *"Enter choice (a/b/c/d): "* `choice = input("Enter choice(a/b/c/d): ")`	

6.	Use an **if statement** to check if the user wants to add
	
	`if choice == 'a':`
	`    print(num1,"+",num2,"=", (num1+num2))`	

7.	Use an **elif statement** to check if the user wants to subtract
	
	`elif choice =='b':`
	`    print(num1,"-",num2,"=", (num1 - num2))`	

8.	Use an **elif statement** to check if the user wants to multiply
	
	`elif choice =='c':`
	`    print(num1,"×",num2,"=", (num1*num2))`	

9.	Use an **elif statement** to check if the user wants to divide
	
	`elif choice == 'd':`
	`    print(num1,"÷",num2,"=", (num1/num2))`	

10.	Use an **else statement** to check if the user has made an error
	
	`else:`
	`    print("INVALID INPUT")`	

11.	Add comments	

Evaluation:

No.	Points	Student Evaluation	Teacher Evaluation
1.	Records user input for the two numbers as integer variables	✓	1
2.	Prints the list of available operations	✓	1
3.	Records user's choice of operator in "choice"	✓	1
4.	Adds numbers and prints the equation if user enters 'a'	✓	1
5.	Subtracts numbers and prints the equation if user enters 'b'	✓	1
6.	Multiplies numbers and prints the equation if user enters 'c'	✓	1
7.	Divides numbers and print the equation if user enters 'd'	✓	1
8.	Prints "INVALID INPUT" if user enters something else	✓	1
9.	Displays correct use of indentation	X	0
10.	Has at least one comment	X	0
Maximum Achievable Points		**10**	
Summarization of Actual Points		8	8