FARICHA AULIA

JOBSHEETS 5

SELECTION 1

Experiment 1

1. Add Scanner library, Scanner declaration, and create a variable bil to hold data inputted via keyboard

```
import java.util.Scanner;

Scanner input = new Scanner(System.in);
int number;
System.out.print("Enter a number : ");
number = input.nextInt();
```

```
In [1]: // Type the program code above, below (below this sentence)
import java.util.Scanner;

Scanner input = new Scanner (System.in);
int number;
System.out.print("Enter a number : ");
number = input.nextInt();
```

```
Enter a number : 30
```

2. Create a conditional structure to check whether the number is even or odd

```
if(number%2==0){
    System.out.println("Even Number");
}else{
    System.out.println("Odd Number");
}
```

```
In [2]: // Type the program code above, below (below this sentence)
if (number%2==0){
System.out.println("Even Number");
}else{
System.out.println("Odd Number");
}
```

```
Even Number
```

Write an explanation of the codes above

Explanation : Programming to analyze odd/even numbers. Scanner to input user numbers. With the condition that the user's number is divided by 2. If is used the condition evaluates to true. Else is used when the condition is not met or is false.

Question

Modify the program above in the selection structure section so that it becomes as follows:

```
String output = (number % 2 == 0) ? "Even Number" : "Odd Number";
System.out.println(output);
```

```
In [3]: // Type the program code above, below (below this sentence)
String output = (number % 2 == 0 ) ? "Even Number" : "Odd Number";
System.out.println(output);

Even Number
```

Explanation : Because the data is not locked in a string, the same as before.

Experiment 2

- Create a value variable to store input from the keyboard

```
int score;
System.out.print("Enter the score : ");
score = input.nextInt();
```

```
In [5]: // Type the program code above, below (below this sentence)
int score;
System.out.print("Enter the score : ");
score = input.nextInt();

Enter the score : 95
```

- Add a condition to check the input on the value variable

```
if(score >= 100){
    score += 10;
}else{
    score -= 10;
}
System.out.println("Final result of score is " + score);
```

```
In [6]: // Type the program code above, below (below this sentence)
if(score >= 100){
    score += 10;
}else{
    score -= 10;
}
System.out.println ("Final result of score is " + score);

Final result of score is 85
```

- Explanation : Programming to analyze values greater than equal to the number 100. Scanner to enter user values. if the condition is true it will be +10. else is used when the condition is not met or false it will be -10. the output is the result value.

Question

1. Explain the function of the following program code:
   Answer : as a continuation of the fulfillment of the requirements in the previous program code
2. Change the program above where the initial input is only one and then replaced with 2 inputs (example: value1 and value2), calculate the average of these two values if the value is more than equal to 100 then subtract 5, whereas if the average value is less than 100 will be in print soon!
   Answer : **import** java.util.Scanner;
   Scanner input = **new** Scanner (System.in);
   int score, score1, score2;
   System.out.print("Enter score : ");
   score = input.nextInt();
   if(score >= 100){
   score1 += 5;
   }else{
   score2 -= 0;
   }
   System.out.println ("Value 1 " + score1);
   System.out.println ("Value 2 " + score2);

Experiment 3

- Code to input age

```
In [8]: // Write an explanation of the code above
System.out.println("We use the code to create age-appropriate programs for the user for easy inclusion in future programs.");
import java.util.Scanner;

Scanner input = new Scanner(System.in);
int age;
System.out.println("Please enter your age " + age);
age = input.nextInt();
```

```
We use the code to create age-appropriate programs for the user for easy inclusion in future programs.
Please enter your age 0
18
```

- Code to check age variable

```
In [19]: // Type the program code above, below (below this sentence)
if(age > 60){
    System.out.println("elderly");
}else if(age > 45){
    System.out.println("old");
}else if(age > 17){
    System.out.println("mature");
}else if(age > 5){
    System.out.println("children");
}else{
    System.out.println("toddler");
}
```

```
mature
```

- Explain : Program to analyze age variables. Depending on the requirements of the program code that has been created (age range).

Experiment 4

```
Scanner sc = new Scanner(System.in);
double number1, number2, result;
char operator;
```

In [10]:
```
// Type the program code above, below (below this sentence)
Scanner input = new Scanner (System.in);
double number1, number2, result;
char operator;
```

3. Program code to request input from the keyboard

```
System.out.print("Enter your first number : ");
number1 = sc.nextDouble();
System.out.print("Enter your second number : ");
number2 = sc.nextDouble();
System.out.print("Enter your operator (+ - * /) : ");
operator = sc.next().charAt(0);
```

In [17]:
```
// Type the program code above, below (below this sentence)
import java.util.Scanner;

Scanner sc = new Scanner(System.in);
double number1, number2;
System.out.print("Enter your first number : ");
number1 = sc.nextDouble();
System.out.print("Enter your second number : ");
number2 = sc.nextDouble();
System.out.print("Enter your operator (+ - * /) : ");
operator = sc.next().charAt(0);
```

```
Enter your first number : 3
Enter your second number : 7
Enter your operator (+ - * /) : *
```

Explain : Generate code for user numeric input. And to operate with (add, subtract, multiply, and divide) which is not a number / has no value.

In [22]:
```
// Type the program code above, below (below this sentence)
switch(operator){
        case'+':
        result = number1 + number2;
        System.out.println(number1 + " + " + number2 + " = " + result);
        break;
        case'-':
        result = number1 - number2;
        System.out.println(number1 + " - " + number2 + " = " + result);
        break;
        case'*':
        result = number1 * number2;
        System.out.println(number1 + " * " + number2 + " = " + result);
        break;
        case'/':
        result = number1 / number2;
        System.out.println(number1 + " / " + number2 + " = " + result);
        break;
        default:
        System.out.println("Wrong operator!");
}
```

```
3.0 * 7.0 = 21.0
```

Explain : Output as a result of the data that the user has entered (numbers and number operations)

Task

1. Write a program to input two integers, then print one of the numbers with the largest value.

In [23]:
```
//type the program code and attach the result here
System.out.println ("Task 1 ");
Scanner sc = new Scanner(System.in);
int number1, number2;
System.out.print("Enter first number : ");
number1 = sc.nextInt();
System.out.print("Enter second number : ");
number2 = sc.nextInt();
if(number1 > number2){
System.out.print(number1 + " more than " + number2);
}
else {System.out.print(number2 + " more than " + number1);}
```

```
Task 1
Enter first number : 8
Enter second number : 9
9 more than 8
```

2. Flowchart

In [24]:
```
//type the program code and attach the result here
System.out.println ("Task 2 ");
int age;
System.out.print("Enter age : ");
age = sc.nextInt();
if(age >= 17){
System.out.print("Allowed to drive");
}
else {System.out.print("Not allowed to drive");}
```

```
Task 2
Enter age : 19
Allowed to drive
```

3. Program to help find out which students get remedial based on the final grade they get!

In [25]:
```
//type the program code and attach the result here
System.out.println ("Task 3 ");
float examScore, uTSScore, assigmentScore, quizScore, finalGrade;
System.out.print("Enter examination score : ");
examScore = sc.nextFloat();
System.out.print("Enter UTS score : ");
uTSScore = sc.nextFloat();
System.out.print("Enter assigment score : ");
assigmentScore = sc.nextFloat();
System.out.print("Enter quiz score : ");
quizScore = sc.nextFloat();
finalGrade = (examScore * 40 / 100) + (uTSScore * 30 / 100) + (assigmentScore * 20 / 100) + (quizScore * 10 / 100);
System.out.print("Final grade : " + finalGrade);
if(finalGrade < 65){
System.out.println("Get remedial");
}
else {System.out.println("Not get remedial");}
```

```
Task 3
Enter examination score : 87
Enter UTS score : 90
Enter assigment score : 85
Enter quiz score : 92
Final grade : 88.0Not get remedial
```

4. Program discount customer

```
In [27]: //type the program code and attach the result here
System.out.println ("Task 4 ");
int price, priceA, priceB, priceC, quantity, quantityA, quantityB, quantityC, total, totalA, totalB, totalC, discount;
System.out.print("Enter the price of item A : ");
priceA = sc.nextInt();
System.out.print("Enter the quantity of item A : ");
quantityA = sc.nextInt();
System.out.print("Enter the price of item B : ");
priceB = sc.nextInt();
System.out.print("Enter the quantity of item B : ");
quantityB = sc.nextInt();
System.out.print("Enter the price of item C : ");
priceC = sc.nextInt();
System.out.print("Enter the quantity of item C : ");
quantityC = sc.nextInt();
System.out.print("total receipt : ");
totalA = priceA*quantityA;
totalB = priceB*quantityB;
totalC = priceC*quantityC;
total = totalA + totalB + totalC;
System.out.print("Total = " + total);
if(total > 200000){
    discount = total * 2 / 100;
}else if(total > 500000){
    discount = total * 5 / 100;
}else if(total > 1000000){
    discount = total * 10 / 100;
}else discount = 0;{
System.out.println ("Discount : " + discount);
System.out.println ("Total pay : " + (total-discount));}
```

```
Task 4
Enter the price of item A : 60000
Enter the quantity of item A : 43
Enter the price of item B : 90000
Enter the quantity of item B : 87
Enter the price of item C : 172000
Enter the quantity of item C : 24
total receipt : Total = 14538000Discount : 290760
Total pay : 14247240
```

Table & Program

Line	Program

1-14	import java.util.Scanner;
	public class SelectionTask{
	public static void main(String []args){
	System.out.println ("Task 1 ");
	Scanner sc = new Scanner(System.in);
	int number1, number2;
	System.out.print("Enter first number : ");
	number1 = sc.nextInt();
	System.out.print("Enter second number : ");
	number2 = sc.nextInt();
	if(number1 > number2){
	System.out.print(number1 + " more than " + number2);
	}
	else {System.out.print(number2 + " more than " + number1);}

15-23	System.out.println ("\t"); System.out.println ("Task 2 "); int age; System.out.print("Enter age : "); age = sc.nextInt();

	if(age >= 17){
	System.out.print("Allowed to drive");
	}
	else {System.out.print("Not allowed to drive");}

24-40	System.out.println ("\t");
	System.out.println ("Task 3 ");
	float examScore, uTSScore, assigmentScore, quizScore, finalGrade;
	System.out.print("Enter examination score : ");
	examScore = sc.nextFloat();
	System.out.print("Enter UTS score : ");
	uTSScore = sc.nextFloat();
	System.out.print("Enter assigment score : ");
	assigmentScore = sc.nextFloat();
	System.out.print("Enter quiz score : ");
	quizScore = sc.nextFloat();
	finalGrade = (examScore * 40 / 100) + (uTSScore * 30 / 100) + (assigmentScore * 20 / 100) + (quizScore * 10 / 100);
	System.out.print("Final grade : " + finalGrade);
	if(finalGrade < 65){
	System.out.println("Get remedial");
	}
	else {System.out.println("Not get remedial");}

41-74	System.out.println ("\t");
	System.out.println ("Task 4 ");
	int price, priceA, priceB, priceC, quantity, quantityA, quantityB, quantityC, total, totalA, totalB, totalC, discount;
	System.out.print("Enter the price of item A : ");
	priceA = sc.nextInt();
	System.out.print("Enter the quantity of item A : ");
	quantityA = sc.nextInt();
	System.out.print("Enter the price of item B : ");
	priceB = sc.nextInt();
	System.out.print("Enter the quantity of item B : ");
	quantityB = sc.nextInt();
	System.out.print("Enter the price of item C : ");
	priceC = sc.nextInt();
	System.out.print("Enter the quantity of item C : ");
	quantityC = sc.nextInt();
	System.out.print("total receipt : ");
	totalA = priceA*quantityA;
	totalB = priceB*quantityB;
	totalC = priceC*quantityC;
	total = totalA + totalB + totalC;
	System.out.print("Total = " + total);
	if(total > 200000){
	discount = total * 2 / 100;

```
                }else if(total > 500000){
                        discount = total * 5 / 100;
                }else if(total > 1000000){
                        discount = total * 10 / 100;
                }else discount = 0;{
                System.out.println ("Discount : " + discount);
                System.out.println ("Total pay : " + (total-discount));

        }
}
}
```