

# ASSIGNMENT

## ≈ 01

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COURSE CODE: CSA0914

COURSE NAME: programming in Java for  
Raspberry pi

Submitted To:-

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1. **Aim:-** To write a java program to calculate student grades based on their scores.

**Pseudocode:-**

1. Initialize the variables.
2. Ask the user to enter the student's score.
3. Store the entered score in variable score
4. If the score is 90 or higher, the grade is "A". If the score is 80 or higher but less than 90, the grade is "B". If the score is 70 or higher but less than 80, the grade is "C". If the score is 60 or higher but less than 70, the grade is "D". If the score is less than 60, the grade is "F"
5. Store the determined grade in variable grade.
6. Display the calculated grade.

**Program:-**

```
import java.util.Scanner;
```

```
public class question1 {
```

```
    public static void main(String[] args) {
```

```
        Scanner Scanner = new Scanner(System.in);
```

```
        System.out.print("Enter the student's score (0-100):");
```

```
        int score = Scanner.nextInt();
```

```
        char grade;
```

```
        if (score >= 90) {
```

```
            grade = 'A';
```

```
        }
```

```
        else if (score >= 80 && score < 90) {
```

```
            grade = 'B';
```

```
        }
```

```

else if (score >= 70 && score < 80) {
    grade = 'C';
}
else if (score >= 60 && score < 70) {
    grade = 'D';
}
else {
    grade = 'F';
}
System.out.println("The student's grade is : " + grade);
}

```

**Input:-**

Enter the student's Score (0-100): 67

**Output:-**

The Student's grade is : D

2.

**Aim:-** To write a java program to randomly select a number between 1 and 10 and the player has to guess it.

**Pseudocode:-**

- 1) Initialize the variables
- 2) Choose a random number between 1 and 10 and store this number in a secret variable.
- 3) Set a Counter to 0 to keep track of the no. of attempts.
- 4) While the no. of attempts is less than 3
- 5) Ask the player to guess a number between 1 and 10
- 6) If guess was correct display congratulations
- 7) Otherwise print not correct till 3 attempts.



### Input:-

1. Guess a number between 1 and 10: 4
2. Guess a number between 1 and 10: 7
3. Guess a number between 1 and 10: 9

### Output:-

1. Your guess is too low. Try again
  2. Your guess is too low. Try again
  3. Your guess is too low. Try again
- Sorry, you didn't guess the number correctly. The Secret number was 10.

3. **Aim:-** To write a java program to generate and display the multiplication table for any no. of entered by the user

### Pseudocode:-

1. Initialize the variables
2. Ask the user to enter a number. store it in 'num' variable.
3. print the message indicating to generate the multiplication table of a given number.
4. Start a for that run 10 times.
5. Calculate the product of the given number and the current iteration number.
6. print the result.



### Program:-

```
import java.util.Scanner;
```

```
public class question31
```

```
    public static void main (String[] args) {
```

```
        Scanner scanner = new Scanner(System.in);
```

```
        System.out.print("Enter a number:");
```

```
        int num = scanner.nextInt();
```

```
        System.out.println("Multiplication Table for "+  
            num + ":");
```

```
        for (int i = 1; i <= 10; i++)
```

```
        {  
            System.out.println(num + " x " + i + " = " + (num * i));
```

```
        }  
    }
```

### Input:-

Enter a number: 4

### Output:-

4 x 1 = 4

4 x 2 = 8

4 x 3 = 12

4 x 4 = 16

4 x 5 = 20

4 x 6 = 24

4 x 7 = 28

4 x 8 = 32

4 x 9 = 36

4 x 10 = 40

- 4 Aim:- To write a java program for counting the even and odd numbers.

Pseudocode:-

1. Initialize the variables
2. Ask the user to enter the no. of integers
3. Set two counters to zero for even and odd numbers
4. Start a for loop will run 'numintegers' times and ask to enter the numbers.
5. If the number is divided by 2 with no remainder increment evencount by 1; else increment odd count by 1.
6. print the result of even and oddcount.

Program:-

```
import java.util.Scanner;
```

```
public class question4 {
```

```
    public static void main (String[] args) {
```

```
        Scanner Scanner = new Scanner (System.in);
```

```
        System.out.print("enter the no. of integers:");
```

```
        int numintegers = Scanner.nextInt();
```

```
        int evencount = 0;
```

```
        int oddcount = 0;
```

```
        System.out.println("enter the integers:")
```

```
        for (int i=0; i<numIntegers; i++)
```

```
        {
```

```

int num = Scanner.nextInt();
if (num % 2 == 0) {
    evencount++;
}
else {
    oddcount++;
}
↓
System.out.println("Even numbers:" + evencount);
System.out.println("Odd numbers:" + oddcount);
}
}

```

**Input:-**

Enter the no. of integers: 5

**Output:-**

Enter the integers:

1 2 3 4 5

Even numbers : 2

Odd numbers : 3.

5. **Aim:-** To write a java program for Simple ATM Simulation.

**Pseudocode:-**

- initialize the variables
- Display a menu to the user with the following options: check Balance, Deposit Money, Withdraw Money, Exit
- 3) Ask the user to choose an option from the menu.
- 4) If the user choose to check Balance: display current balance.



- 5) If user choose Deposit money, ask the user to enter the deposit amount and add deposit amount to the current balance, display the new balance to the user.
- 6) Withdraw money, ask the user to enter money to withdraw, check if it is sufficient to cover the withdrawal amount, and subtract the amount from the current balance.
- 7) Exit the loop.
- 8) Display the result.

**Program:-**

```
import java.util.Scanner;
```

```
public class questions1
```

```
{  
    public static void main (String[] args) {
```

```
        Scanner scanner = new Scanner (System.in);
```

```
        double balance = 1000.0;
```

```
        while (true) {
```

```
            System.out.println ("Welcome to the ATM System!");
```

```
            System.out.println ("Choose an option:");
```

```
            System.out.println ("1. Check Balance");
```

```
            System.out.println ("2. Deposit Money");
```

```
            System.out.println ("3. Withdraw money");
```

```
            System.out.println ("4. Exit");
```

```
            int option = scanner.nextInt();
```

```
            switch (option) {
```

```
                case 1:
```

```
                    System.out.println ("Your current balance is: $" + balance);
```

```
                    break;
```

Case 2 :

```
System.out.println("Enter the amount to deposit : $");  
double depositAmount = Scanner.nextDouble();  
balance += depositAmount;  
System.out.println("Deposit Successful. Your new  
balance is : $" + balance);  
break;
```

Case 3 :

```
System.out.print("Enter the amount to withdraw : $");  
double withdrawAmount = Scanner.nextDouble();  
if (withdrawAmount > balance) {  
    System.out.println("Insufficient funds. Your  
    current balance is : $" + balance);  
}  
else {  
    System.out.println("Withdrawal successful. Your  
    new balance is $" + balance);  
}  
break;
```

Case 4 :

```
System.out.println("Goodbye!");  
return;
```

default:

```
System.out.println("Invalid option. please try  
again.");
```

}

}

}

}

### Input:-

Enter amount to deposit: 6000

Enter amount to withdraw: 7000

### Output:-

Welcome to the ATM System!

Choose an option:

1. Check Balance

2. Deposit Money

3. Withdraw Money

4. Exit

1.

Your current balance is : \$1000.0

2.

Deposit Successful. Your new balance is : \$7000.0

3.

Withdrawal successful. Your new balance is : \$0.0

4.

Exit.