ASSIGNMENT-01

COURSE CODE: CSA0914.

COURSE NAME : Java programming
for Rasberry pi

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Submitted to:

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

Pseudocode:

1. Ask the user to enter the student's score (a number between 0 and 100.

2. Store the entered score in a variable called score.

3. Determine the grades based on the score using the following rules.
   * If the score is 90 or higher, the grade is A.
   * if the score is 80 or higher, but less than 90, then 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.

program:

```java
import java.util.Scannar;
public class gradecalculator {
    public static void main (String [] args){
        Scannar Scannar = new Scannar (System.in);
        System.out.print ("enter the Student's Scor (0-100):");
        int Scor = Scannar.nextInt ();
        Char grat = Calculatgrade (Scor);
        System.out.println ("the Student's grade is:" + grade);
    }
```

```
public static char calculategrade ( int Scor) {
if (Scor >= 90) {
  return 'A';
}
else if (Scor >= 80 && Score <90) {
  return 'B';
}
else if (Score >= 70 && Score < 80) {
  return 'C';
}
else if (Scok >= 60 && Score <70) {
  return 'D';
}
else {
  return 'F';
}
}
}.
```

Input:

Enter the Student's Score (0-100) : 74

Output:

The Student's grade is : c

②

Aim: Write a program for number guessing game.

Pseudocode:

1) Generate a secret number.
   Choose a random number between 1 to 6 store this number in a secret variable.

2) Initialise attempts.
   Set a counter to 0 to keep track of the number of attempts

3) Play the game.

4) ask the player to guess a number between 1 and n.

5) get the player's guess.

6) if the guess is equal to the secret number.

7) Congregulate the player and end the game, otherwise

8) if the guess is too low, tell the player their guess is low.

9) Increment the attempt counter.

program:—

```java
Import java.util.Random;
import java.util.Scannar;
Public class game {
    public static void main(String[] args) {
        Random random = new Random();
        int secretnumber = random.nextint(10)+;
        Scannar Scanner = new scannar (System.in);
        int attempts = 0;
        While (attempts < 3) {
            System.out.println("congragulations!, you guess is correct!");
            break;
```

```java
    }
    else if (guess < secret number) {
        System.out.println ("your guess is too low. try again");
    }
    else {
        System.out.println ("your guess is too high. try again");
    }
    attempts ++;
}
if (attempts == 3) {
    System.out.println ("Sorry you didn't guess the number correctly.
    The secret number was" + Secret number);
}
}
}
```

Input:

guess a number between 1 and 10; 7

guess a number between 1 and 10: 8

output:-

your guess is too low
try again.

congragulations ! you
guessed the correct number

③ **Aim:** To write a program to generate a multiplication table.

Pseudocode:

1) get the user input
   Store the user's input in a variable called num.

2) print header
   print the message indicating that the program will generate multiplication table.

3) generate multiplication table.

4) Start a loop it will run 10 times (from 1 to 10).

5) for each iteration of the loop.

6) End the loop.

program:

```java
import java.util.Scanner;
public class multiplicationtable {
    public static void main (String[] args) {
        Scanner scanner = new Scanner (System.in);
        System.out.print ("enter a number");
        int num = scanner.nextln();
        System.out.println ("multiplication table for "+ num +": ");
        for (int i=1; i<=10; i++) {
            System.out.println (num + "x" + i +" =" + (num* 9));
        }.
    }
}
```

Input:
Enter a number: 5

Output:
Multiplication table for 5:
5 × 1 = 5
5 × 2 = 10
5 × 3 = 15
5 × 4 = 20
5 × 5 = 25
5 × 6 = 30
5 × 7 = 35
5 × 8 = 40
5 × 9 = 45
5 × 10 = 50

(4) Aim: To write a program to count the even and odd numbers.

Pseudocode:

1) get the numbers from the user, how many integers.

2) Initialise counters.

3) Set two counters to zero. even count to the even and odd count for odd numbers.

4) check if (number is divided by 2 with remainder is zero. if the number is even increment the evencount by 1

5) if the odd is increment the oddcount by 1.

6) print the number of even and odd numbers.

program:-

```java
import java.util.Scanner;
public class evencount {
    public static void main(String[] args) {
        Scanner scanna = new Scanner(System.in);
        System.out.print("enter a number 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++) {
            if (num./2==0) {
                evencount++;
            }
            else {
                oddcount++;
            }
        }

        System.out.println("even numbers:" + evencount);
        System.out.println("odd numbers:" + oddcount);
    }
}
```

Input:

Enter the number of integers: 5
enter the integers:
1
2
3
4
5

output:-

Even numbers: 2
odd numbers: 3.

⑤ **Aim:** To write a program for basic atm system can choose three options : check balance, deposit money or withdraw money The initial balance is set of $1000.

Pseudocode :

1) Initialise balance
2) display the menu.
   Check balance
   deposite money
   withdraw money
   exit.
3) get the user input.
4) Store the user's input in a variable called option.
5) process option.
6) if the user chooses to check balance.
7) display the current balance to the user
8) Repeat.

Program :-

```
import java.util.Scanner;
public class atmsimul {
    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:");
```

```java
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 bance is: $" + balance);
        break;
    case 2:
        System.out.print("enter the amount to deposit: $");
        double depositamount = scanner.nextdouble();
        balance += depositamount;
        System.out.println("deposit successfull, your balance" + balance);
        break;
    case 3:
        System.out.println("enter the amount to withdraw $");
        double withdraw amount= scanner.nextdouble();
        if (withdraw amount > balance) {
            System.out.println("insufficient funds " + balance);
        }
        else {
            balance -= withdrawamount;
            System.out.println("withdraw successfull" + balance);
        }
        break;
    case 4:
        System.out.println("goodbye!");
        return;
    }
}
```

Input:

Choose an option:

1

Output:-

your balance is : $10000.