



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment No: 1

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Branch: CSE
Semester: 6th
Subject: Project Based Learning in
Java with Lab

UID: 21BCS10155
Section/Group: 616/B
Date of Performance: 01/15/24
Subject Code: 21CSH-319

1. Aim:

Given the following table containing information about employees of an organization, develop a small java application, which accepts employee id from the command prompt and displays the following details as output:

Emp No Emp Name Department Designation and Salary

You may assume that the array is initialized with the following details:

| Emp No. | Emp Name | Join Date | Desig Code | Dept | Basic | HRA | IT |
|---------|----------|------------|------------|----------------|-------|-------|-------|
| 1001 | Ashish | 01/04/2009 | e | R&D | 20000 | 8000 | 3000 |
| 1002 | Sushma | 23/08/2012 | c | PM | 30000 | 12000 | 9000 |
| 1003 | Rahul | 12/11/2008 | k | Acct | 10000 | 8000 | 1000 |
| 1004 | Chahat | 29/01/2013 | r | Front Desk | 12000 | 6000 | 2000 |
| 1005 | Ranjan | 16/07/2005 | m | Engg | 50000 | 20000 | 20000 |
| 1006 | Suman | 1/1/2000 | e | Manu facturing | 23000 | 9000 | 4400 |
| 1007 | Tanmay | 12/06/2006 | c | PM | 29000 | 12000 | 10000 |

Salary is calculated as Basic+HRA+DA-IT. (DA details are given in the Designation table) Designation details :

| Designation Code | Designation | DA |
|------------------|--------------|-------|
| e | Engineer | 20000 |
| c | Consultant | 32000 |
| k | Clerk | 12000 |
| r | Receptionist | 15000 |
| m | Manager | 40000 |

Use Switch-Case to print Designation in the output and to find the value of DA for a particular employee.

O/P Expected:

1. Assuming that your class name is Project1, and you execute your code

as java Project1 1003, it should display the following output :

```
Emp No.  Emp Name  Department  Designation
Salary1003  Rahul      Acct
Clerk                      29000
```

2. java Project1 123

There is no employee with empid : 123

2. Objective:

- Understanding the use of arrays to store information related to employees, such as employee IDs, names, join dates, department names, etc
- Exploring the use of conditional statements (if-else) for mapping designation codes to actual designations and corresponding allowances.
- To observe the use of loops to iterate through arrays and perform repetitive tasks, such as assigning designations and calculating salaries.
- To identify opportunities to create reusable functions for tasks like calculating salary, displaying employee information, etc.

3. Input/Apparatus Used:

Online Java Compiler

4. Procedure/Algorithm/Pseudocode:

Step 1: Start.

Step 2: Create arrays for employee details such as empId, empName, joinDate, depName, basic, hra, it, desCode, etc.

Step 3: Create a loop to iterate through each employee's designation code (desCode). Based on the code, set the designation (des) and calculate the corresponding Designation Allowance (da).

Step 4: Create a loop to calculate the salary for each employee using the formula: $sal[i] = basic[i] + hra[i] + da[i] - it[i]$.

Step 5: Prompt the user to input the employee ID whose salary needs to be calculated using a Scanner.

Step 6: Use a loop to search for the entered employee ID in the empId array.

Step 7: If found, display the employee details including ID, Name, Department, Designation, and

Step 8: If not found, print "Invalid Id".

Step 9: End of Program:

5. Code:

```
package Array;
```

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

```
public class project {  
    public static void main(String[] args) {  
        int[] empId = { 1001, 1002, 1003, 1004, 1005, 1006, 1007 };  
        String[] empName = { "Ashish", "Sushma", "Rahul", "Chahat", "Ranjan", "Suman",  
            "Tanmay" };  
        String[] joinDate = { "01-04-2009", "23-08-2012", "03-03-2021", "04-04-2021", "05-05-  
            2021", "06-07-2021", "25-12-2021" };  
        String[] depName = { "Managment", "Accounting", "R&D ", "Marketing", "IT department",  
            "Sales ", "Front Desk" };  
        int[] basic = { 41000, 51000, 61000, 71000, 98000, 20000, 4000 };  
        int[] hra = { 1000, 2000, 3000, 4000, 5000, 2900, 8000 };  
        int[] it = { 5500, 4400, 3300, 2200, 1100, 5500, 1100 };  
        char[] desCode = { 'm', 'k', 'e', 'c', 's', 'a', 'r' };  
        int[] da = new int[7];  
        String[] des = new String[7];  
  
        for (int i = 0; i < 7; i++) {  
            switch (desCode[i]) {  
                case 'm':  
                    des[i] = "Manager ";  
                    da[i] = 10000;  
                    break;  
                case 's':  
                    des[i] = "Service Engineer";  
                    da[i] = 6000;
```

```

        break;
    case 'a':
        des[i] = "Analyst ";
        da[i] = 5000;
        break;
    case 'r':
        des[i] = "Manager ";
        da[i] = 10000;
        break;
    case 'k':
        des[i] = "Clerk ";
        da[i] = 2000;
        break;
    case 'e':
        des[i] = "Engineer ";
        da[i] = 8000;
        break;
    case 'c':
        des[i] = "Commerical Mangaer";
        da[i] = 9000;
        break;
    default:
        des[i] = "Receptionist ";
        da[i] = 4000;
        break;
    }
}

int[] sal = new int[7];
for (int i = 0; i < 7; i++) {
    sal[i] = basic[i] + hra[i] + da[i] - it[i];
}

System.out.print("Enter the Employee ID whose Salary is to be Calculated: ");
Scanner s = new Scanner(System.in);
int x = s.nextInt();
boolean found = false;
System.out.println("\nEmp ID\tEmp Name\tDepartment\tDesignation\tSalary\n");
for (int i = 0; i < 7; i++) {
    if (x == empId[i]) {
        System.out.println(empId[i] + "\t" + empName[i] + "\t" + depName[i] + "\t" + des[i]
+ "\t" + sal[i]);
        found = true;
        break;
    }
}
if (!found) {
    System.out.println("Invalid Id");
}
}
}

```

6. Result/Output:

```
PS E:\All\STUDY\Sixth Semester\Java> e;; cd 'e:\All\STUDY\Sixth Semester\Java'; & 'C:\Program Fil  
nExceptionMessages' '-cp' 'C:\Users\HP\AppData\Roaming\Code\User\workspaceStorage\62183a667b22d215  
rray.project'  
Enter the Employee ID whose Salary is to be Calculated: 1001  
  
Emp ID      Emp Name      Department      Designation      Salary  
1001        Ashish        Managment       Manager          46500  
PS E:\All\STUDY\Sixth Semester\Java> 
```

7. Learning Outcomes:

- i. We should learn about how to take value from the user
- ii. we should learn about relational operator
- iii. we should learn about conditional operator