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ASSIGNMENT 1 : JAVA PROGRAMMING

1. Explain the differences between primitive and reference data types

Reference data types are also called non primitive data types. They are created by the programmer, and not defined in programming language,

1. Define a scope of a variable

It is a place in a program where it can be referenced. Global variables are useful for values that are relatively constant or that many functions in a script must access eg session id. A local variable, however has a limited scope.

1. Why is initialization of variables required

This is because if a variable has not been initialized, it can lead to unpredictable outputs when used in computations or any other operations.

1. Differentiate between local, static, and instance variables

A local variable is defined within a method or a code block. Static variable is defined outside a method at the class level. Instance variables are defined outside method at class level.

1. Differentiate between widening and narrowing casting in java

Widening conversations preserve the source value but can change its representation. A narrowing conversation changes a value to a data type that might not be able to hold some of its possible values.

|  |  |  |  |
| --- | --- | --- | --- |
| TYPE | SIZE(IN BYTES) | DEFAULT | RANGE |
| Boolean | 1 | =false | True,False |
| Char | 2 | =/u0000 | “/0000”to”/ffff” |
| Byte | 1 | 0 | -128 to 127 |
| Short | 2 | 0 | -2^15 to +2^15-1 |
| Int | 4 | = 0 | -2,147483,648 to 2,147,483647 |
| Long | 8 | oL | -9,223,372,036854,775,807 |
| Float | 4 | 0.00F |  |
| Double | 8 | =0.0 | -1.8E +308 to +1.8E +308 |
|  |  |  |  |

7) Define a package as used in java programming

It is defined as a group made up of similar types of classes, along with sub-packages.

8) Explain the importance of using java packages

1) It protects the product from physical impacts such as hitting, wetting and bruising.

2) It allows products to reach the consumer in the most economic way possible and creates ease of storage.

3) It provides the consumer with ease of choice and usage with information it holds.

SECTION TWO

2) /\* Program that calculates average marks of five units \*/

// input 56,78,54,89,76--------average

Import java.util.scanner;

Class average

{

Public static void main ( String[] args) {

Int a, b, c , d, e;

System.out.print(“Enter marks of five units “);

Scanner r=new Scanner(System.in);

a=r.nextint();

b=r.nextint();

c=r.nextint();

d=r.nextint();

e=r.nextint();

int sum= a+b+c+d+e;

System.out.print(“Total marks “+ sum);

Double average=sum/5.0;

System.out.println(“average marks “ + average);

Import java.uti; . Scanner;

/\*A java calculator program to perform operations/\*

1. Class calculator{

Public static void main(String args[]){

Scanner scan = new scanner (System.in);

System.out.println(“choose your operation “);

System.out.println(“1 for addition”);

System.out.println(“2 for subtraction”);

System.out.printIn(“3 for multiplication”);

System.out.printIn(“4 for division”);

Int choose = scan.nextint();

System.out.println(“enter two numbers”);

Int x = scan .nextInt();

Int y = scan .nextInt();

If(choose==1){

System.out.println(“The answer is: “+ add(x+Y);

Else if (choose==2){

System.out.println(“The answer is: “+ sub(x+Y);

}

Else if (choose==3){

System.out.println(“The answer is: “+ mult(x+Y);

}

Else if (choose==4){

System.out.println(“The answer is: “+ div(x+Y);

}

Else{

System.out.println(“you are out of range”);

}

}

Public static int add(int x ,int y){

Int n;

n =x+y;

return n;

}

Public static int sub(int x,int y){ Int n;

n =x+y;

return n;

}

Public static int mult(int x, int y){ Int n;

n =x+y;

return n;

}

Public static void int div(int x, int y)} Int n;

n =x+y;

return n;

}