

Q-1: What is the purpose of a scanner in Java programming?

Ans: A Scanner in Java used to take input from user. Example:

```
Scanner input = new Scanner(System.in);  
int num = input.nextInt();
```

Q-2: Define data types and provide examples of primitive data types in Java.

Ans: Data types define what kind of data a variable can store.

Example of Primitive data types:

int → 1, 2, 3 etc

double → 3.14, 2.5

char → 'A', 'b'

boolean → true or false



Q-3: What is the role of variable in programming and how they are declared?

Ans: Variables store values in memory so that we can use them in later.

Declaration: data types + variable name.

Ex: int num = 25

double cg = 3.2

Q-4: What is the importance of using meaningful variable names? Provide examples of good and poor variable naming conventions.

Ans: Meaningful names make code easy to ~~understand~~ understand.

Good naming: int studentAge = 25

double cgpa = 4.00.

Poor naming: int a = 25

double b = 4.00



Q-5: Discuss different types of operators and give examples.

Ans:

→ Arithmetic operators:  $+$ ,  $-$ ,  $*$ ,  $/$ ,  $\%$

Ex: `int sum = 5 + 3`

→ Relational operators:  $==$ ,  $!=$ ,  $>$ ,  $<$ ,  $>=$ ,  $<=$

`boolean isEqual = (5 == 3) // false`

→ Logical operators:  $\&\&$ ,  $\|\|$ ,  $!$

`boolean result = (5 > 3) && (10 > 8)  
// true`

→ Assignment operators:  $=$ ,  $+=$ ,  $-=$ ,  $*=$ ,  $/=$ ,  $\%=$

`int x = 5`

`x += 3 // x = 8`

→ Unary Operators:  $++$ ,  $--$

`int a = 5`

`a++ // a = 6`

`a-- // a = 5`