

PFP Quiz2 Guide

Note: The quiz is closed book, closed notes. You are allowed to bring a calculator.

Here is a list of materials to review:

Fundamentals

Literals

Operators

Expressions

Types: int, double, char, char

Variables

Statements

Sequential Control flow

Block of Code

Conditional Statements: if, if-else, nested if-else

Loops: while, for

System.out.println method

OOP

What is an object?

What does object consist of? Data and Behavior

Behavior types: Query and Command

Classes are template for creating objects. Contain: data fields, methods, constructors.

Variables: instance, temporary/local variables, static

Methods: Know how to write a method

Constructor: how to write constructors and create objects with it

String Objects: String declaration and concatenation, string methods discussed in class from String API

What do keywords: public and private and final do?

Scope: accessibility of variables (static, instance and local)

Has a Relationship

When does object have a relationship with another variable?

Kinds of Memory: stack and heap

What is null?

Refer to the Reference Equality sheet for sample questions and assignment 3

Array

Arrays of Primitives & Objects:

- know how to declare and initialize them
- traverse a whole array

2D arrays will not be asked on this quiz

Programming Language

What is programming language vs Machine Language?

Most common Java Compiling Errors: E.g. missing semicolon, curly brace; assigning wrong types to variables etc.

What is Java byte code?

What is the java package with compiler and virtual machine known as?

What is an API?

What does the class interface contain?

Bits, Data Type and Operations

Convert from binary to decimal

Convert from decimal to binary

Different sign notations: Sign Magnitude, 1's complement, 2's complement

Adding unsigned/signed binary numbers and detecting overflow – remember proper sign extension when doing addition

AND, OR and NOT operations on bits

Hex and Octal notation

Converting between base 2, 10, 8, 16

Floating point representation