No. 13-298

In the

Supreme Court of the United States

Alice Corporation Pty. Ltd.,

Petitioner,

v.

CLS Bank International and CLS Services Ltd.,

Respondent.

On Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit

BRIEF OF PUBLIC KNOWLEDGE AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENT

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INTEREST OF *AMICUS CURIAE*

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Public Knowledge has previously served as *amicus* in key patent cases. *E.g., Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238 (2011); *Bilski v. Kappos*, 130 S. Ct. 3218 (2010); *Quanta Computer, Inc. v. LG Elecs. Corp.*, 553 U.S. 617 (2008).

SUMMARY OF ARGUMENT

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ARGUMENT

I. The Claims at Issue Are Ineligible Under Section 101 Because They Effectively Preempt Substantially All Uses of an Abstract Idea

A. A Seven-Line Computer Implementation of the Patented Technology Illustrates that the Claims Are Not Meaningfully Limited Beyond an Abstract Idea

The claims use complex, technical-sounding language like "shadow accounts" that make the claim to appear substantially limited beyond a mere abstract idea. However, a careful reading of the claims shows that this complex

language does not in fact actually provide such substantial limitations.

To demonstrate this, we prepare a computer program that implements all the features of the claims. The computer program is very short, indicating that the verbose language of the claims does not in fact demand specific, particular implementations but rather can expansively cover all implementations.

---

10 **LET** *account1* = 200.00
20 **LET** *account3* = 300.00
30 **INPUT** "Value to exchange for transaction"; *exchange*
40 **IF** *account1* < *exchange* **THEN PRINT** "Inadequate value" : **STOP**
50 *account1* = *account1* − *exchange*
60 *account3* = *account3* + *exchange*
70 **PRINT** "Instruction to 1st institution: adjust 2nd account by "; −*exchange*

Certain judges of the Federal Circuit were clearly misled by the claim language. They believed that the claim required particular, specific implementation details, due to the apparently technical language of the claims and the patent specification. However, our presented computer implementation shows these beliefs to be in error.

B. Read with Proper Expansiveness, the Claims Cover Substantially All Computer Implementations of a Basic, Abstract Accounting Idea of Third-Party Escrow

The example computer program shows that the asserted claims, though lengthy and technical in appearance,

are actually directed only to a very simple, basic computer procedure. *Amicus* now turns to using this example computer program to show that the asserted claims are directed only to an abstract idea.

An abstract idea is [DEFINITION]. Claims directed merely to an abstract idea are not eligible under 35 U.S.C. § 101 (2013). Furthermore, inclusion of "insignificant" post-solution or pre-solution activity to an otherwise abstract idea does not render a claim eligible, as this Court has held, because otherwise any "competent draftsman" could circumvent the limitations of patent eligibility.

As Respondents have argued, the claim is directed to nothing more than a general-purpose computer tied to the abstract idea of accounting by a third-party escrow. The following exposition will consider Claim 26, line by line, to determine that every claim element is an inherent aspect of this abstract idea, a standard component of a general-purpose computer, or insignificant pre- or post-solution activity.

Elements 1–2[1] of the claim describe ordinary components of a general-purpose computer. *See infra* p. 15. The "communications controller" and "first party device" are broad, general terms that encompass basic computer components for interacting with users. Furthermore, these two components are only recited in conjunction with a step of receiving data, which as explained below is insignificant pre-solution activity.

Elements 3–5 describe basic recordkeeping operations inherent in the idea of third-party escrow. Although the claim language verbosely describes a "data storage unit"

[1]Elements will be referenced by numbers corresponding to the claim reprinted in the appendix. *See* Appendix B *infra* p. 20.

with "information about a first account" and second account, the computer implementation demonstrates that these claim elements in fact require nothing more than storing account balances—that is, recording two numbers in a computer. *See infra* p. 15. Certainly one would necessarily store such account information as part of an escrow service.

Element 6 recites "a computer," and as such only further describes a general-purpose computer.

Element 7 states that the computer must "receive a transaction." Steps of receiving data have been held by this Court and others to constitute insignificant pre-solution activity. *See, e.g., Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012). As such, this claim element does not contribute to the eligibility of the claim.

Element 8 describes two steps to be performed by the computer, both of which are inherent in the idea of third-party escrow. First, the computer is tasked with "ensuring that said first party and/or said second party have adequate value" in their accounts. The computer code shows that this amounts to nothing more than a comparison, checking whether an account balance is greater than an amount to be transferred out of that account. *See infra* p. 17. This is a necessary operation performed by a third-party escrow broker, who must ensure that the parties' accounts can satisfy the desired transaction.

Second, element 8 requires the computer to "electronically adjust said first account and said third account." This is performed in two lines of computer code, one of which subtracts from the first account and the other of which adds to the third account. *See infra* p. 17. Again, this is inherent in a third-party escrow service, which must adjust account balance records to account for a transaction.

Element 9 instructs that the computer "generate an instruction to said first exchange institution and/or said second exchange institution to adjust said second account and/or said fourth account." Despite the fifty-nine-word length of this element, it reduces to a single computer operation of printing out a message describing the transaction that was just completed. *See infra* p. 18. This elementary output step is post-solution activity that should not contribute to the eligibility of the claim. *See Parker v. Flook*, 437 U.S. 584, 156 (1978) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 57 (1972)).

Accordingly, this claim is directed to nothing more than an abstract idea of third-party escrow, in conjunction with insignificant pre-solution and post-solution activity, and ordinary, albeit verbosely described, components of a general purpose computer.

C. The Court Should Disapprove the Preemption of Substantially All Computer Uses of an Abstract Idea, and Thus Hold the Claims at Issue Ineligible

Under this Court's precedent, a patent claim is ineligible under § 101 if that claim has the "practical effect" of removing an abstract idea from the public domain. *See Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972). As shown in the previous section, claim 26 of the '375 patent would have the practical effect of removing all uses of an abstract idea *implemented on a general-purpose computer* from the public domain. The Court should make clear that abstract ideas, including algorithms, are reserved to the public, even when implemented on general-purpose computers.

Holding otherwise would contradict the purpose of the exception and undermine the justification for patent protection. Abstract ideas are unpatentable because they are

"the basic tools of scientific and technological work," *id.* at 67, and must remain "free to all men and reserved exclusively to none," *Bilski v. Kappos*, 130 S. Ct. 3218, 3218 (2010) (quoting *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948)). All patents necessarily remove something from the public domain, but where patents "grant[] monopolies over procedures that others would discover by independent, creative application of general principles," they reach impermissibly far. *See id.* at 3228.

The exception's purpose is a practical one: prohibiting patents on abstract ideas would be meaningless if ideas could still be patented within certain technical domains, or with the addition of routine steps. [2] Thus, in *Mayo* this Court held that processes reciting laws of nature are not patentable unless they require "significantly more" than the natural law, thereby providing "practical assurance" that the claim is not "designed to monopolize the law of nature itself." *Mayo*, 132 S. Ct. at 1297; *see also id.* at 1294 (claims must be limited "in practice").

Implementing an abstract idea like an algorithm on a general-purpose computer does not provide the practical protection against monopoly that this Court's past cases require. Recognizing this, *Benson* held that a claim to a method of programming a general-purpose computer was an abstract idea ineligible for patent despite the fact that it required computer implementation. *Benson*, 409 U.S. at 71. The Court reasoned that because the claimed method had "no substantial practical application except in connection with a digital computer," the patent "in *practical*

[2]Note to ourselves: possible analogy to genus and species claims: once the genus is disclosed, cant patent individual species within it, because allowing otherwise would encourage a rush to cover the genus with individual patents, making the genus patent less valuable. (In the analogy the genus patent is the public domain idea.)

effect would be a patent on the algorithm itself." *Id.* at 71–72 (emphasis added).

An abstract idea "does not suddenly become patentable subject matter simply by having the applicant acquiesce to limiting the reach of the patent . . . to a particular technological use." *Diamond v. Diehr*, 450 U.S. 175, 192 n.14 (1981). Implementing an abstract idea in the form of an algorithm on a general-purpose computer is a "well-understood, routine, conventional activity," *Mayo*, 132 S. Ct. at 1300, that applies the algorithm in a "particular technological environment," *Bilski*, 130 S. Ct. at 3230 (quoting *Diehr*, 450 U.S. at 191–92). The mere fact that a computer is involved does not make these meaningful limits. Unlike claims to "an application" of an abstract idea that "[do] not seek to pre-empt the use" of the abstract idea, *see Diehr*, 450 U.S. at 187 (finding claim to such an application patent-eligible), requiring implementation on a general-purpose computer therefore does not limit the claim "in practice," *see Mayo*, 132 S. Ct. at 1294.[3]

The physical nature of a computer does not change this. Holding otherwise would "exalt[] form over substance," *see Flook*, 437 U.S. at 590, and endorse an untenable legal fiction. The Federal Circuit case *In re Alappat*, which Alice and some of its *amici* cite approvingly, found that a general-purpose computer "in effect" becomes a patent-eligible special-purpose machine once it is programmed. *See In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994).

[3]Algorithms run on a general-purpose computer are also far from the "industrial process" the Court found to be a patent-eligible application in *Diehr*. *See Diehr*, 450 U.S. at 187 (describing a process with "physical and chemical" components including filling a mold with raw rubber and opening the surrounding press at a calculated moment, whose contribution to the art was its "process of constantly monitoring the actual temperature inside the mold.").

But this is like saying that a television screen is "special-purpose" at the moment it displays one frame from a movie, or, as Chief Judge Archer pointed out at the time, that a composer may patent the "structure" of a song as recorded on a compact disc. *See id.* at 1553–54 (Archer, C.J., dissenting). *Alappat*'s distinction between "apparatus" and unpatentable "mathematics," *id.* at 1545, is a fiction with no relevance to general-purpose machines that function through repeated logical operations.

Like pencil and paper, programmable computers are a general-purpose innovation technology. Just as most of us cannot solve, say, long division problems of a certain difficulty without writing them down, computers are capable of tasks we humans cannot practically perform unaided. This is why general-purpose computers are so useful: they can be put to any task for which they can be programmed. Advances in computer hardware are of course themselves eligible for patent protection. *See CLS Bank Int'l v. Alice Corp.*, 717 F.3d 1269, 1292 (Fed. Cir. 2013) (en banc) (Lourie, J., plurality op.) (observing in dicta that computers *per se* are "surely patent-eligible machines"). But so are machines made of graphite and wood. This does not mean that the abstract idea of long division is eligible for protection because it can, or even sometimes practically must, be written down.

The basic tools of innovation remain basic tools, even when they are implemented on general-purpose technologies, or must be implemented on general-purpose technologies. To hold otherwise would allow processes to be patentable when run on a computer that we could not remove from the public domain when done by hand. This would hamstring innovators by limiting them to a previous generation's general-purpose technologiespencils, calculatorsand reserving the use of abstract ideas that can

be most effectively, or even only, performed on general-purpose computers to those who patent them first. Computers are in widespread use today, and are effectively unavoidable. Condemning the public to resort to pencil and paper to avoid patent infringement is untenable, and goes against the purpose of the abstract idea exception.

This case is the Court's opportunity to reject the fiction that computers' physicality effectively limits the ideas they implement, continue its reasoning in *Mayo* and *Bilski*, and clearly hold that abstract ideas cannot be patented even when they are implemented on general-purpose computers.

II. The Court Should Proactively Clarify the Law of Subject Matter Eligibility in Order to Avoid Further Errors Relating to Abstract Ideas

The Supreme Court has taken numerous subject matter eligibility cases recently. It does so because the Federal Circuit is in a confused state about the law of § 101, primarily because a small faction of that court repeatedly applies incorrect analytical techniques to improperly find patents eligible even when this Court's precedents demand otherwise.

To clearly enunciate the law for the Federal Circuit and to prevent the need for further appeals, this Court should explicitly reject those improper analytical techniques, some of which have been catalogued below.

A. The Court Should Enunciate the Inappropriateness of Using Specification Details to Evaluate Subject Matter Eligibility

In assessing whether a claim is ineligible under § 101, courts must consider the entire breadth of the claim.

Claims directed to an abstract idea will still cover specific, concrete implementations of that abstract idea, so the mere fact that a claim covers a concrete implementation is no indicator that a claim is directed to eligible subject matter.

Nevertheless, certain judges of the Federal Circuit persistently err by relying on specific examples to find patent claims eligible. In the present case, the plurality opinion justified its finding that the system claims of the patents at issue were eligible, by selecting a complex-looking flowchart from the specification to point to the supposed complexity and concreteness of the claim. By doing so, they failed to contemplate the possibility that other, simpler, abstract ideas were *also* covered by that same claim—ideas such as the 14-line computer program presented in this brief.

Ironically, those same judges of the Federal Circuit criticize their opposed colleagues for failing to read the "claims as a whole." It is in fact those opposed colleagues who have actually read the claims as a whole, contemplating the vast scope of what they cover. It is that plurality of the Federal Circuit, instead, who fails to read the claims as a whole, focusing wrongly on specific examples and obfuscatory language that misleadingly make abstract ideas appear patentable.

B. The Court Should Reaffirm its Longstanding View that Mere Drafting Decisions, such as Choosing Between System and Method Claims, Do Not Affect Subject Matter Eligibility

The formalistic approach favored by some judges of the Federal Circuit lends to easy circumvention by clever patent drafting. For example, the suggestion that the

method claims in the present case are ineligibile, while system claims directed to the same technology are eligible, simply encourages patent applicants to use system claims in order to skirt the abstract ideas test.

Granting such weight to mere formal drafting practices ignores the basic rationale behind the Supreme Court's exceptions to § 101. In explaining the basis for the three exceptions to § 101, this Court has applied the fundamental principle that patents must ultimately incentivize innovation. While patents on many inventions do serve this principle, patents to abstract ideas, laws of nature and physical phenomena would in fact deter innovation by taking away those "basic tools of research available to all."

Several judges of the Federal Circuit ignore this basic rationale. Judge Rader, for example, has intimated that the three exceptions to § 101 are essentially tautological, because one "cannot invent an abstract idea, law of nature or physical phenomenon" since they have been around the whole time.

This unduly narrow, formalistic view of the exceptions to § 101 fails to adequately protect the concerns about incentives for innovation explicitly relied upon by this Court. Under Judge Rader's view, mere addition of even the most insignificant step to an otherwise abstract method would suddenly make that abstract method patentable, because the combination would not have existed before. The Court has specifically denounced this possibility, in holding numerous times that insignificant post-solution activity and pre-solution activity cannot render an otherwise abstract idea patentable.

C. Recitation of Basic, Widely Available Platform Technologies, Regardless of Detail, Cannot Render an Abstract Idea Patentable

The Federal Circuit repeatedly cites recitations of basic general purpose computing hardware as evidence that a claim is directed to eligible subject matter under § 101. This is often done by overstating this court's dicta in *Bilski*, that the "machine or transformation" test is an "important clue" in assessing subject matter eligibility.

The Court should clarify that mere recitation of general purpose platform technologies, such as general purpose computers, cannot render an otherwise ineligible claim eligible. Such a holding would be consistent with this Court's precedent, and more importantly would strongly advance the principles of incentivizing innovation, by protecting those "basic tools of innovation" meant to be "available to all."

As an analogy, consider a claim directed to the basic idea of addition, performed with paper and pencil. The paper and pencil could be described in great detail:

> Drawing one or more numerical figures, with a pencil comprising a wooden shaft substantially in the shape of a hexagonal prism, the wooden shaft surrounding a cylindrical graphite barrel, the wooden shaft having a distal end including a rubber eraser, the wooden shaft further having a proximal end sharpened to thereby expose a portion of the cylindrical graphite barrel.

Such a claim would certainly satisfy the machine-or-transformation test (a pencil is a machine of sorts, and the adherence of graphite to paper would constitute transformation of matter, among other things), but certainly

such a claim would not be eligible subject matter, regardless of the level of detail. This is because paper and pencil are the basic tools of invention. To permit the patenting of abstract ideas merely tied to such basic tools would be tantamount to permitting the patenting of those abstract ideas alone.

Certain judges of the Federal Circuit criticize this approach, believing that it improperly imports questions of novelty and obviousness into § 101. However, as this Court's precedent makes clear, this is not the case. *See Flook*.

CONCLUSION

For the foregoing reasons, *amicus* respectfully submits that the Court should affirm the district court.

Respectfully submitted,

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APPENDIX A

Implementation of Claim 26 of the '375 Patent in Seven Lines of Computer Code

The following seven-line computer program, written in the BASIC programming language, implements Claim 26 of the '375 Patent.

---

10 **LET** *account1* = 200.00

20 **LET** *account3* = 300.00

30 **INPUT** "Value to exchange for transaction"; *exchange*

40 **IF** *account1* < *exchange* **THEN PRINT** "Inadequate value" : **STOP**

50 *account1* = *account1* − *exchange*

60 *account3* = *account3* + *exchange*

70 **PRINT** "Instruction to 1st institution: adjust 2nd account by "; −*exchange*

The subsequent text reviews the elements of the claim in detail and explains how a general-purpose computer, running the above computer program, would satisfy all the elements of the claim. For convenience, the entirety of the claim is reprinted in the next appendix.

CLAIM 26, PREAMBLE:

A data processing system to enable the exchange of an obligation between parties, the system comprising:

The preamble recites that the claim covers a general purpose computing system, called a "data processing system" by the claim language. The recitation that the system is "to enable the exchange of an obligation" is a statement of intended use, which should not contribute to the scope of the claim.

CLAIM 26, ELEMENTS 1–2:

a communications controller,

a first party device, coupled to said communications controller,

These elements recite general hardware inherent in a general purpose computer. A "communications controller" broadly refers to a component of a computer that receives and processes communications, and a "first party device" could refer to any computer hardware. A standard keyboard could potentially satisfy this limitation.

CLAIM 26, ELEMENTS 3–5:

a data storage unit having stored therein

(a) information about a first account for a first party, independent from a second account maintained by a first exchange institution, and

(b) information about a third account for a second party, independent from a fourth account maintained by a second exchange institution; and

COMPUTER CODE, LINES 10–20:

10 **LET** *account1* = 200.00

20 **LET** *account3* = 300.00

These elements of the claim simply require that a computer store two numbers representing account balances. The "data storage unit" might be any computer storage component, such as a hard disk or memory. The "information about" the first and third accounts broadly encompass any account information, such as an account balance.

The recitations that the information be stored "independent from" various accounts maintained by exchange institutions are simply statements of intended use, which

should not contribute to the patentability of the claim. Petitioners have never suggested that the external exchange institutions are necessary parties to infringement of their claims.

The computer code implements these elements of the claim by instructing a computer to store two account balances, into variables named *account1* and *account3*.

CLAIM 26, ELEMENT 6:

a computer, coupled to said data storage unit and said communications controller, that is configured to

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This element is simply further recitation of details about a general purpose computer. Any computer would necessarily be coupled to a data storage unit, so that it might access data for processing, and further be coupled to a communications controller, so that it may receive and output information.

CLAIM 26, ELEMENT 7:

(a) receive a transaction from said first party device via said communications controller;

COMPUTER CODE, LINE 30:

30 **INPUT** "Value to exchange for transaction";

exchange

According to this element, the computer receives a "transaction." An exchange of money between two accounts is one type of transaction. Thus, this element requires nothing more than receipt of an instruction to transfer money between two accounts.

The computer code implements this by requesting input of an amount of money to transfer between the first

and third account. Upon running this line of code, a computer would print out a prompt message, and then await an outside user to enter a number indicating the amount of money to transfer. The amount to exchange is stored in a variable named *exchange*.

CLAIM 26, ELEMENT 8:

(b) electronically adjust said first account and said third account in order to effect an exchange obligation arising from said transaction between said first party and said second party after ensuring that said first party and/or said second party have adequate value in said first account and/or said third account, respectively; and

---

COMPUTER CODE, LINES 40–60:

40 **IF** *account1* $<$ *exchange* **THEN PRINT** "Inadequate value" : **STOP**

50 $account1 = account1 - exchange$

60 $account3 = account3 + exchange$

This element describes two operations. First, a computer must check that at least one of the accounts has a large enough balance to permit the desired transfer of money ("ensuring that said first party...ha[s] adequate value in said first account"). Second, the computer must record the transfer by adjusting the balances of the accounts ("electronically adjust said first account and said third account").

Note the substantial presence of inoperative language in this claim element. The recitation "in order to effect an exchange obligation arising from said transaction between said first party and said second party" does nothing more than reiterate that the computer is transferring money between accounts. Furthermore, the claim recites that the computer must ensure "adequate value in said first account

and/or said third account," and the disjunctive "and/or" means that the claim element is satisfied if only one of those accounts is checked.

The computer code implements the step of checking the account balances at line 40, which halts execution (with STOP) if the balance of *account1* is less than the amount to be exchanged. The code implements the step of effecting the transfer at lines 50–60, which deducts the amount to be exchanged from *account1* and adds that amount to *account3*.

CLAIM 26, ELEMENT 9:

(c) generate an instruction to said first exchange institution and/or said second exchange institution to adjust said second account and/or said fourth account in accordance with the adjustment of said first account and/or said third account, wherein said instruction being an irrevocable, time invariant obligation placed on said first exchange institution and/or said second exchange institution.

COMPUTER CODE, LINE 70:

70 **PRINT** "Instruction to 1st institution: adjust 2nd account by "; $-$*exchange*

This claim element requires only that a computer output an instruction to perform the desired transfer of money. The claim element recites "an instruction to said first exchange institution and/or said second exchange institution," but the disjunctive "and/or" means that a single instruction suffices. Similarly, the recitation of an instruction "to adjust said second account and/or said fourth account" only requires an instruction with regard to a single account.

The requirement that the instruction be "an irrevocable, time invariant obligation" is merely a statement of in-

tended use that should not contribute to the patentability of the claim. An instruction is simply a text, and the recipient of the instruction chooses whether to treat that text as irrevocable or time-invariant. Although this claim language could plausibly have been defined in the specification to require some sort of special format for the instruction, Petitioners have never identified any such special definition in any of their briefs to this Court or the Federal Circuit, and the text of the specification contains neither term outside of the claims. Furthermore, even if these terms did have some special meaning, it would only dictate the content of the instruction text, and content of text does not contribute to patentability.

The computer code implements this element by causing a computer to print an instruction to adjust the second account. The instruction directs the first institution to deduct the amount *exchange* from the account.

APPENDIX B

Claim 26 of the '375 Patent

Numbers, in square brackets, have been inserted before each element of the claim, to assist in referring to claim elements within the brief.

A data processing system to enable the exchange of an obligation between parties, the system comprising:

[1] a communications controller,

[2] a first party device, coupled to said communications controller,

[3] a data storage unit having stored therein

[4] (a) information about a first account for a first party, independent from a second account maintained by a first exchange institution, and

[5] (b) information about a third account for a second party, independent from a fourth account maintained by a second exchange institution; and

[6] a computer, coupled to said data storage unit and said communications controller, that is configured to

[7] (a) receive a transaction from said first party device via said communications controller;

[8] (b) electronically adjust said first account and said third account in order to effect an exchange obligation arising from said transaction between said first party and said second party after ensuring that said first party and/or said second party have adequate value in said first account and/or said third account, respectively; and

[9] (c) generate an instruction to said first exchange institution and/or said second exchange institution to adjust said second account and/or said fourth account in accordance with the adjustment of said first account and/or said third account, wherein said instruction being an irrevocable, time invariant obligation placed on said first exchange institution and/or said second exchange institution.