Ingegneria del Software

Anno Accademico 2023-2024

**Documento del Test**

***Calcolatrice Scientifica***

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*Group02*

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| **FTC1** | **Inserimento valori e operazione generica** |
| **Precondizione** | Stack: 5+i, 6+10i, 77i, -78; |
| **Flusso degli eventi** | Digito il numero 89-8i.  Clicco invio.  Digito il numero 55.  Clicco invio.  Digito in numero -24i.  Clicco invio.  Digito +.  Clicco invio. |
| **Post condizione** | Stack: 55-24i, 89-8i, 5+i, 6+10i, 77i, -78; |
| **Use Cases** | Inserisci Operando-Esegui-Inserisci Operatore-Visualizza Aggiornamento |

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| **FTC2** | **Visualizzazione 12 elementi stack** |
| **Precondizione** | Stack: pieno;  Stack visualizzato: 8+7i, 10, 5i, -88i, -104, -60-66i, 7, 99+88i, 13+17i, 11+25i, 12+88i; |
| **Flusso degli eventi** | Clicco drop.  Digito il numero 8-8i.  Clicco invio.  Clicco drop.  Digito il numero 59.  Clicco invio. |
| **Post condizione** | Stack: pieno  Stack visualizzato: 59, 8-8i, 5i, -88i, -104, -60-66i, 7, 99+88i, 13+17i, 11+25i, 12+88i; |
| **Use Cases** | Inserisci Operatore, Inserisci operando, Esegui, Visualizza aggiornamento. |

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| **FTC3** | **Scelta variabili** |
| **Precondizione** | Stack: 8+7i, 10, 5i, -4, -68-66i, 7, 99+88i, 195+17i, 11+24i, 12+88i; |
| **Flusso degli eventi** | Seleziono la variabile ‘a’ dal menù a tendina  Digito >a;  Digito drop;  Seleziono la variabile ‘z’ dal menù a tendina  Digito >z;  Digito <z;  Digito <a; |
| **Post condizione** | Stack: 8+7i, 10, 10, 5i, -4, -68-66i, 7, 99+88i, 195+17i, 11+24i, 12+88i;  a=8+7i; z=10; |
| **Use Cases** | Inserisci operando, Inserisci operatore, Esegui, Visualizza aggiornamento. |

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| **FTC4** | **Visibilità display** |
| **Precondizione** | Stack: 8+7i, 877, 99+99i, 195+17i, 11+2704, 12+88i;  Display: ; |
| **Flusso degli eventi** | Digito il numero 4+5i; |
| **Post condizione** | Stack: 8+7i, 877, 99+99i, 195+17i, 11+2704, 12+88i;  Display: 4+5i: |
| **Use Cases** | Inserisci operando. |

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| **FTC5** | **Dimensione massima stack 24** |
| **Precondizione** | Stack: stack pieno;  Stack visualizzato: 77, 45+10i, 5i, -99, -21i, -8+10i, -99, -22-88i, 9, 4-5i 77-9i, 12 |
| **Flusso degli eventi** | Clicco drop;  Digito il numero 4+5i;  Clicco invio  Digito il numero 58;  Clicco invio; |
| **Post condizione** | Syntax Error lo stack è pieno.  Il programma di chiude. |
| **Use Cases** | Inserisci operatore, inserisci operando, esegui, visualizza aggiornamento, mostra errore. |

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| **FTC6** | **Risultato radice quadrata** |
| **Precondizione** | Stack: stack pieno;  Stack visualizzato: 78, 5+10i, 5i, -99, -21i, -8+11.666i, -99, -22-88i, 9, 4-5i 77-7i, 2 |
| **Flusso degli eventi** | Clicco drop;  Digito il numero 4+5i;  Clicco invio  Clicco sqrt;  Clicco invio; |
| **Post condizione** | Syntax Error lo stack è pieno.  Il programma si chiude. |
| **Use Cases** | Inserisci operatore, inserisci operando, visualizza aggiornamento, esegui, mostra errore. |

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| **FTC7** | **Operazione non unaria** |
| **Precondizione** | Stack visualizzato: 78, 9, -62-88i, 97.25, 4-5i, 97-7i, 2 |
| **Flusso degli eventi** | Clicco drop;  Clicco drop;  Clicco drop;  Clicco drop;  Clicco drop;  Clicco ‘+’;  Clicco esegui; |
| **Post condizione** | Stack: 2;  Syntax Error l’addizione è un operazione non unaria.  Il programma si chiude. |
| **Use Cases** | Inserisci operatore, esegui, visualizza aggiornamento mostra errore. |

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| **FTC8** | **Operazione unaria** |
| **Precondizione** | Stack visualizzato: 78.5, 9, -45-88i, 97, 4-77i, 9i, 2 |
| **Flusso degli eventi** | Clicco drop;  Clicco drop;  Clicco drop;  Clicco drop;  Clicco drop;  Clicco drop;  Digito ‘+-’;  Clicco esegui; |
| **Post condizione** | Stack: ;  Syntax Error il cambio segno è un operazione unaria.  Il programma si chiude. |
| **Use Cases** | Inserisci operatore, esegui, visualizza aggiornamento mostra errore. |

1. **Unit Test**
   1. **Test Classe: ComplexNumber**

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| **UTC 1.1.1** | **Test ComplexNumber.getRealPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getRealPart; |
| **Input** | Complexnumber num = new ComplexNumber(5+11i);  double out = num.getRealPart(); |
| **Oracle** | out== 5; |

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| **UTC 1.1.2** | **Test ComplexNumber.getRealPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getRealPart; |
| **Input** | Complexnumber num = new ComplexNumber(-75+11i);  double out = num.getRealPart(); |
| **Oracle** | out== -75; |

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| **UTC 1.1.3** | **Test ComplexNumber.getRealPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getRealPart; |
| **Input** | Complexnumber num = new ComplexNumber(5.6+11i);  double out = num.getRealPart(); |
| **Oracle** | out== 5.6; |

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| **UTC 1.1.4** | **Test ComplexNumber.getRealPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getRealPart; |
| **Input** | Complexnumber num = new ComplexNumber(-7.5+11i);  double out = num.getRealPart(); |
| **Oracle** | out== -7.5; |

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| **UTC 1.1.5** | **Test ComplexNumber.getRealPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getRealPart; |
| **Input** | Complexnumber num = new ComplexNumber(12i);  double out = num.getRealPart(); |
| **Oracle** | out== 0; |

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| **UTC 1.1.6** | **Test ComplexNumber.getRealPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getRealPart; |
| **Input** | Complexnumber num = new ComplexNumber(96);  double out = num.getRealPart(); |
| **Oracle** | out== 96; |

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| **UTC 1.2.1** | **Test ComplexNumber.getImaginaryPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getImaginaryPart; |
| **Input** | Complexnumber num = new ComplexNumber(7+11i);  double out = num. getImaginaryPart (); |
| **Oracle** | out== 11; |

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| **UTC 1.2.2** | **Test ComplexNumber.** **getImaginaryPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getImaginaryPart; |
| **Input** | Complexnumber num = new ComplexNumber(7+-71i);  double out = num. getImaginaryPart (); |
| **Oracle** | out== -71; |

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| **UTC 1.2.3** | **Test ComplexNumber.** **getImaginaryPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getImaginaryPart; |
| **Input** | Complexnumber num = new ComplexNumber(5.6+7.7i);  double out = num. getImaginaryPart (); |
| **Oracle** | out== 7.7; |

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| **UTC 1.2.4** | **Test ComplexNumber.** **getImaginaryPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getImaginaryPart; |
| **Input** | Complexnumber num = new ComplexNumber(-7.5-8.9i);  double out = num. getImaginaryPart(); |
| **Oracle** | out== -8.9; |

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| **UTC 1.2.5** | **Test ComplexNumber.** **getImaginaryPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getImaginaryPart; |
| **Input** | Complexnumber num = new ComplexNumber(12);  double out = num. getImaginaryPart (); |
| **Oracle** | out== 0; |

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| **UTC 1.2.6** | **Test ComplexNumber.** **getImaginaryPart** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: getImaginaryPart; |
| **Input** | Complexnumber num = new ComplexNumber(19);  double out = num. getImaginaryPart (); |
| **Oracle** | out== 19; |

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| **UTC 1.3.1** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8+11i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7+11i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 15+22i; |

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| **UTC 1.3.2** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -78+11i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7+15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -71+26i; |

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| **UTC 1.3.3** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 7+21i, 77, 95i; |
| **Input** | Complexnumber num = new ComplexNumber(-10+25i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -3+46i; |

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| **UTC 1.3.4** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 66+11i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7-75i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 73-64i; |

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| **UTC 1.3.5** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 29-45i; |
| **Input** | Complexnumber num = new ComplexNumber(7+13i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 36-32i; |

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| **UTC 1.3.6** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -78+21i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-77+19i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -155+40i; |

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| **UTC 1.3.7** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 77-5i; |
| **Input** | Complexnumber num = new ComplexNumber(7-15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 84-20i; |

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| **UTC 1.3.8** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -48-88i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7+15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -55+73i; |

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| **UTC 1.3.9** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8+10i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-99-56i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -91+46i; |

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| **UTC 1.3.10** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 0.1+0.21i, 100, 77i, 98i; |
| **Input** | Complexnumber num = new ComplexNumber(0.7+0.15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 0.8+0.36i; |

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| **UTC 1.3.11** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -0.78-2.99i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-3.7-5.15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -4.48+8.14i; |

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| **UTC 1.3.12** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 0.8+3.9i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-8.8+0.5i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -8.0+4.4; |

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| **UTC 1.3.13** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -0.7+77.79i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7.3+1.5i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 6.6+79.29; |

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| **UTC 1.3.14** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -0.78+9.9i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-7.7+6.15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -8.48+16.05i; |

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| **UTC 1.3.15** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 0.75-4.9i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(6.27+15.2i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 7.02+10.3i; |

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| **UTC 1.3.16** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 99.9+5.9i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(46.8-15.5i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 146.7+-9.6i; |

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| **UTC 1.3.17** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8.9-7.7i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7.1-15.66i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 16.0-23.36i; |

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| **UTC 1.3.18** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 9.8+80.1i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-7.9-1.7i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 1.9+78.4i; |

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| **UTC 1.3.19** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -5.8-12.1i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7.29+12.7i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 1.49+0.6i; |

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| **UTC 1.3.20** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(79+17i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 87+17; |

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| **UTC 1.3.21** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -9, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(75+5i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 66+5i; |

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| **UTC 1.3.22** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 78, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-97+15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -19+15i; |

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| **UTC 1.3.23** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -81, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-71+26i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -152+26i; |

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| **UTC 1.3.24** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 10+2i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 17+2i; |

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| **UTC 1.3.25** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -78+77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(8);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -70+77i; |

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| **UTC 1.3.26** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -98+77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-88);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -186+77i; |

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| **UTC 1.3.27** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8+77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-88);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== --80+77i; |

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| **UTC 1.3.28** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 25, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(39);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 64; |

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| **UTC 1.3.29** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -97, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(110);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 13; |

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| **UTC 1.3.30** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 7, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-10);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma==-3; |

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| **UTC 1.3.31** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -5, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-39);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -44; |

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| **UTC 1.3.32** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8.2, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(79.1+1.7i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 87.3+1.7i; |

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| **UTC 1.3.33** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -8.7, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(0.5+0.5i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -8.2+0.5i; |

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| **UTC 1.3.34** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 6.8, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-9.17+2.15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -2.37+2.15i; |

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| **UTC 1.3.35** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -8.1, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-7.1+2.6i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -15.2+2.6i; |

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| **UTC 1.3.36** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 1.2+2.1i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7.9);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 9.1+2.1i; |

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| **UTC 1.3.37** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -7.8+7.7i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(8.6);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -0.8+7.7i; |

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| **UTC 1.3.38** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -9.8+7.27i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-8.18);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -17.98+7.27i; |

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| **UTC 1.3.39** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8.1+7.17i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-8.28);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -0.18+7.17i; |

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| **UTC 1.3.40** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 2.5, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(3.9);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 6.4; |

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| **UTC 1.3.41** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -9.7, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(1.1);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 10.8; |

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| **UTC 1.3.42** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 0.7, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-0.1);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma==0.6; |

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| **UTC 1.3.43** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -5.2, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-3.9);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -9.1; |

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| **UTC 1.3.44** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(79+7i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 79+15i; |

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| **UTC 1.3.45** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -9i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(75+51i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 75+60i; |

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| **UTC 1.3.46** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 58, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(+7-15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 7+43i; |

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| **UTC 1.3.47** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -81i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(71-26i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 71-107i; |

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| **UTC 1.3.48** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 10+2i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 10+9i; |

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| **UTC 1.3.49** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 78+77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(8i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 78+85i; |

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| **UTC 1.3.50** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 98-74i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-88);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 98+162i; |

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| **UTC 1.3.51** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8+77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-81i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -8-4i; |

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| **UTC 1.3.52** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 25i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(39i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 64i; |

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| **UTC 1.3.53** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -97i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(110i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 13i; |

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| **UTC 1.3.54** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 7i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-10i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma==-3i; |

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| **UTC 1.3.55** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -5i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-39i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -44i; |

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| **UTC 1.3.56** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8.2i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(79.1+1.7i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 79.1+9.9i; |

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| **UTC 1.3.57** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -8.7i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(0.5+0.5i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 0.5-8.2i; |

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| **UTC 1.3.58** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 6.8i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(+9.17-2.15i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 9.17+4.65i; |

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| **UTC 1.3.59** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -8.1i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7.1+2.6i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 7.1-5.5i; |

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| **UTC 1.3.60** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 1.2+2.1i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(7.9i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 1.2+10.0i; |

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| **UTC 1.3.61** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 7.8-7.7i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(8.6i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 7.8+0.9i; |

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| **UTC 1.3.62** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 9.8-7.27i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-8.18i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 9.8+15.45i; |

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| **UTC 1.3.63** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 8.1+7.17i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-8.28i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -8.1-1.11i; |

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| **UTC 1.3.64** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 2.5i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(3.9i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== 6.4; |

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| **UTC 1.3.65** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -9.7i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(1.1i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -8.6; |

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| **UTC 1.3.66** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: 0.7i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-0.1i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma==0.6i; |

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| **UTC 1.3.67** | **Test ComplexNumber.sum** |
| **Elementi testati** | Classe: ComplexNumber; Metodo: sum; |
| **Precondizione** | Stack: -5.2i, 99, 77i, 45i; |
| **Input** | Complexnumber num = new ComplexNumber(-3.9i);  ComplexNumber somma = num.sum(); |
| **Oracle** | somma== -9.1i; |